

THE MINERAL INDUSTRIES OF EUROPE AND CENTRAL EURASIA

By Richard M. Levine, Chin S. Kuo, Harold R. Newman, Walter G. Steblez,
David R. Wilburn, and Glenn J. Wallace

The area of Europe and Central Eurasia treated in this volume encompasses territory that extends from the Atlantic coast of Europe to the Pacific coast of the Russian Federation and includes the British Isles and Iceland. Greenland, which is located in the northwestern Atlantic Ocean, and the Sakhalin and the Kurile Islands, which are located in the Pacific Ocean off the Sea of Japan and are political extensions of Denmark and the Russian Federation, respectively, are also treated in this volume.

During the post-Cold War period (1990–2003), new political and economic configurations and trends emerged in Europe (central and western) and central Eurasia. In the countries of Central Europe (Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Hungary, Macedonia, Poland, Serbia and Montenegro, Slovakia, and Slovenia), and Central Eurasia [the territory of the former Soviet Union (FSU)], which comprises the Commonwealth of Independent States (CIS) (Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Uzbekistan and Ukraine) and the Baltic countries (Estonia, Latvia, and Lithuania), the transition from authoritarian governments and central economic planning (depending on the country) ranged from little or no change to the institution of open political systems and market-based economies.

During this period, new political and economic alliances were developed. The CIS was founded in 1991 by several republics of the FSU to promote free economic space in the FSU region; it does not have supranational powers, and member countries have equal standing in international law. Economic integration in Western Europe evolved into the formation of the European Union (EU), which is a supranational entity that was originally composed of Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, and the United Kingdom. In 1995, Austria, Finland, and Sweden became members. The admission of new member countries has been one of the significant political questions facing the leadership of the EU. The European Community (EC) had formally negotiated with the following six countries: Cyprus, the Czech Republic, Estonia, Hungary, Poland, and Slovenia. Membership was to be extended to these six countries by 2004. The EC also opened accession negotiations in 2000 with seven other countries: Bulgaria, Latvia, Lithuania, Malta, Romania, Slovakia, and Turkey. These candidate countries must fulfill challenging political and economic criteria such as achieve stability of institutions that guarantee democracy, the rule of law, human rights, and respect for and protection of minorities; develop and maintain a functioning market economy that has the capacity to cope with competitive pressures and market forces within the EU; and demonstrate the ability to take on the obligations of EU membership, including adherence to the aims of political, economic, and monetary union.

Although the EU's population (392 million) in 2003 was larger than that of the United States (290 million), the EU's gross domestic product (GDP) was slightly smaller than that of the United States. Despite efforts at economic integration, large differences in the per capita GDP and the rates of growth and unemployment still existed among certain EU countries. A major function of the EU has been to remove barriers to trade in an attempt to create a single market and to develop a common set of policies that range across different sectors of the economy; by the end of 2003, however, no common policy for the mineral extractive industries was yet in place.

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General Economic Conditions

In 2003, the EU continued on its slow growth trajectory. The economic growth rate was low and the unemployment rate rose slightly. Appreciation of the euro constricted exports and a decline in inflation was not sufficient to stimulate growth in private consumption. Reasons for the slow economic growth were to be found in domestic conditions, which included low rates of labor force utilization and decelerating rates of growth in labor productivity. Global economic conditions that affected the EU were high and volatile oil prices, international conflicts that added to economic uncertainty, and a lack of recovery of world trade to its former strength. Although interest rates were lower than in 50 years and real long-term interest rates had not been as low since the late 1970s, investment activity remained weak. This reflected the importance of macroeconomic factors such as weak demand prospects, a worsening of profit margins, a low degree of capacity utilization, and increased risk aversion coupled with high debt levels in the corporate sector despite the ongoing correction of corporate balances (EU Economy, The, 2003§¹).

In 2003, the GDP of the transitional economy countries of Central Europe and Central Eurasia grew at an average rate of 5.8% compared with a negative average growth rate in the 1990s. Foreign direct investment increased from \$1 billion in 1990 to \$35.6 billion in 2003. On a per capita basis, the region had the highest energy consumption of any developing region and the highest CO₂ emissions (World Bank, 2005§b).

Because of the very different paths of development in Western Europe and Central Europe compared with that of Central Eurasia after World War II, an economic asymmetry between these two areas emerged that was particularly apparent in the mineral sector. This asymmetry framed the initial commercial relationship in the minerals sphere between the two areas following the dissolution of the Soviet Union, and it still persisted in 2003. Western Europe continued to import raw materials from, toll-smelt raw materials in, sell equipment and technology to, and invest in mineral development projects in the countries of Central Europe and Central Eurasia; these commercial activities, however, were largely not reciprocated by the countries with formerly centrally planned economies.

The countries of Western Europe and Central Eurasia are substantial participants in the world mineral economy and occupy important roles as suppliers and consumers of all major mineral commodities. In 2003, Western Europe continued to be a major world processing and consuming region and its role in the world mineral industry continued to be one of processing and consuming rather than mining. Central Eurasia remained a major world supplier of mined and processed minerals, but its consumption of these commodities remained at a low level. Central Europe played a much lesser role in both the supply and disposition of most mineral commodities.

As a major world mineral processing and consuming region, Western Europe remained a determinant of world demand for all mineral commodities. With the near exhaustion of its mineral reserves and the decline in its role as a world mine producer of minerals, Western Europe continued to produce metals, which included aluminum, copper, lead, steel, and zinc, using largely imported raw materials and secondary materials; its mineral processing and manufacturing industries accounted for a significant share of the world production of semimanufactured and fabricated ferrous and nonferrous metals. Germany remained Western Europe's dominant smelter and refiner of most metals.

In 2003, the mineral industries in Western Europe were either maintaining a stable level of output or reducing it. A decrease in output in many mineral industries was expected in the next decade as reserves are depleted and processing facilities and plants age and are neither renovated nor replaced. Despite the diminution of Western Europe's importance as a mining region, Western Europe is an important world financial center and the headquarters of major global mining transnationals such as Anglo American S.A., Rio Tinto plc, and BHP Billiton plc. Also, Western Europe played a significant role in the extraction and processing of certain industrial minerals and mineral fuels worldwide. Significant petroleum and natural gas resources have been developed in the North Sea, and Western Europe also has significant coal reserves. Germany remained a significant mine producer of a number of industrial minerals and coal.

The countries of Central Eurasia and Central Europe, which had a combined population that exceeded 400 million, had a combined GDP that was less than one-third that of Western Europe and also that of the United States. The countries of the CIS collectively had an extensive minerals economy that accounted for a major share of the world's extraction of metals, industrial minerals, and mineral fuels and the production of processed mineral products, which included metals and refined petroleum products. Although domestic demand for mineral products was reviving in the CIS countries, consumption of most mineral products remained far below the levels that had existed prior to the breakup of the Soviet Union and well below the levels of advanced industrialized countries.

In 2003, the CIS experienced continued growth in the GDP, industrial output, and capital investment. The CIS remained a major world producer of such nonferrous metals as alumina, primary aluminum, mined and refined copper, titanium raw material and metal,

¹References that include a section mark (§) are found in the Internet References Cited section.

and tungsten, and of such precious metals as gold, palladium, platinum, and silver. With respect to ferrous metals, the CIS had a significant share of the world output of chromite, iron ore, manganese ore, mercury, mine output of nickel and refined nickel, and pig iron and steel. The CIS produced a significant share of the total world production of industrial minerals such as nitrogen (in ammonia), phosphate rock, potash, and sulfur and was a leading world producer of all major fuels such as coal, natural gas, petroleum, and uranium.

Russia, which encompasses about 75% of the territory of the CIS, had the leading mineral industry in the CIS in 2003, followed by Kazakhstan and Ukraine. Azerbaijan, Kyrgyzstan, Uzbekistan, and several other CIS countries also were important producers and processors of minerals. According to data and estimates available for this report, in 2003, Russia ranked first in the world in the production of asbestos, diamond, natural gas, nickel, palladium, and titanium sponge; second in the world in the production of aluminum, platinum, potash, crude petroleum, and mine output of tungsten; and among the top five world producers of such other mineral commodities as mine output of boron, cobalt, iron ore, phosphate rock, and sulfur, as well as the production of ferroalloys, magnesium metal, and crude steel.

Kazakhstan was a significant producer of such mineral products as arsenic, barite, beryllium metal, bismuth, cadmium, chromite, copper, ferroalloys, lead, titanium sponge, uranium, and zinc. Ukraine was a significant producer of such mineral products as ferroalloys, iron ore, manganese ore, pig iron, crude steel, and titanium raw materials. Other CIS countries that were significant world producers of one or more mineral commodities included Azerbaijan (oil), Armenia (molybdenum), Belarus (potash), Kyrgyzstan (antimony metal, gold, mercury ore and metal), Tajikistan (aluminum), Turkmenistan (natural gas), and Uzbekistan (gold, uranium); all the CIS countries produced a range of mineral commodities.

The countries of the Caspian Sea region were of great importance to world energy markets because of the large oil and gas reserves in this region that were being developed. Proven oil reserves for the entire Caspian Sea region (which were estimated to be between 18 billion and 35 billion barrels) were comparable to those of the United States (22 billion barrels) and greater than those in the North Sea (17 billion barrels); undiscovered oil resources could yield another 235 billion barrels of oil (U.S. Energy Information Administration, 2000§; 2001§; 2003§).

Legislation

In 2003, the countries of Western Europe did not have a common mineral policy. The mining legislations of the countries of the EU and of Europe as a whole differed widely in their objectives and regulatory details. Even though the EC is not involved in harmonizing the various countries' mining laws, such coordination was beginning to take place owing mainly to increased competition for mining and exploration investments. In Central Europe, legislation was enacted that has enabled the integration of Central Europe's mineral industry with that of the world economy; as a result, the industry was attracting investment from outside the subregion. In Central Eurasia, legislation was enacted to enable mineral-producing enterprises to respond to market forces and attract investment; clearer laws and regulations and more-consistent enforcement have enabled business transaction in the region to become more routine. As in other emerging markets, however, investors have found that there are still substantial market barriers and have encountered problems with the resolution of business disputes.

Exploration

Exploration budgets in Asia, Europe, and the countries of Central Eurasia increased by 24% according to a Metals Economic Group (MEG) 2003 survey and accounted for more than 11% of the world share. Gold exploration accounted for 42% of budgeted 2003 exploration expenditures in this part of the world; base metals exploration, 28%; diamond exploration, 18%; and exploration for other minerals, 12%. Based on the number of sites in Europe and Central Eurasia, gold exploration focused on Armenia, Bulgaria, Romania, Russia, and Spain. Base metal exploration was concentrated in Sweden. Many prior mining areas of Europe were being reevaluated with newer geophysical methods; areas rich in base-metal sulfides were often being reevaluated for platinum-group metals (PGM). Land access for exploration increased over the past decade in portions of Eastern Europe and the CIS countries.

A 2003 report by Gold Fields Mineral Services suggests that the investment climate in Russia was improving based on its continued strong economic growth, a recently upgraded credit rating, and the establishment of several Russian-foreign interest joint ventures for mineral exploration and development. Exploration in 2003 in Russia focused on the search for gold and PGM (Northern Miner, 2003).

Ireland's Minister of State for the Department of Communications, Marine and Natural Resources announced several initiatives to gather and disseminate minerals exploration information. The Airborne Magnetic Interpretation Initiative was a joint public-private agreement to process and interpret newly released airborne magnetic data gathered as part of the Airborne Data Release Initiative of 2001. The Minerals Administration Programme Support was a 2-year program designed to provide background geologic information on Irish minerals potential (Mining Journal, 2003).

A master plan for developing the mining sector of Georgia in the Caucasus was being funded by the Japan International Cooperation Agency (JICA). Mineral exploration by foreign companies in Georgia focused on the Bolnisi gold district and the southwestern porphyry copper belt (Norwest Mineral Sector Investment Focus, 2003b). Also in the Caucasus, the Government of Armenia enacted a new Mineral Prospecting and Mining Law in 2003 that governs the rights and obligations for mineral exploration and mining licenses, although the regulatory framework remains under development. Under the new law, separate licenses are required for exploration and production, with an automatic transfer to a production license following successful exploration. Licenses must be

approved by the Ministry of Natural Protection and can be withdrawn if minimum work requirements are not met (Norwest Mineral Sector Investment Focus, 2003a).

Production

The data presented in the commodity review section were obtained from summary table 4 in this chapter and the production tables in U.S. Geological Survey Minerals Yearbook, volume III, Area Reports—International, for years 1990 through 2003.

In general, data on the recovery of secondary copper and other metals in Central Europe and Central Eurasia have not been well documented. The data on secondary metals recovery in the tables in this chapter do not reflect the total recovery of secondary metals in the countries of these subregions.

The projected data reported in the commodity review section for the years 2005, 2007, and 2009 are based on reported, planned, or in-progress changes to net production capacities for selected mineral commodities.

The outlook section is based upon projected trends that could affect current producing facilities and upon planned new facility capacities that the operating companies, consortia, or Governments have projected to come online within the projected timeframes. Forward-looking information, including estimates of future production, exploration, and mine development, costs of capital projects, and timing of commencement of operations, are subject to a variety of risks and uncertainties that could cause actual events or results to differ materially from the projected results. As such, projects listed in the following section are presented as an indication of current industry plans and are not a USGS prediction of what will occur. The USGS provides no warranty, expressed or implied, as to the accuracy, reliability, or completeness of furnished data and is under no obligation to correct or update any forward-looking statements, whether as a result of new information, future events, or otherwise.

Outlook

Western Europe is expected to continue to rely less on domestic mining for most metals and more on imported ore and concentrates of ferrous and nonferrous metals. Increased use of secondary metals also will reduce reliance on primary raw materials. Most production increases for metals will be associated with increased exports that stem from rising demand for Western European-made durables and consumer products outside the area. Domestic consumption is not expected to rise significantly in the near future. The production of most major industrial minerals has remained stable during recent years and, as in the case of metals, the disposition of production increases more than likely will be directed towards exports rather than domestic sales.

Most countries in Western Europe are net importers of energy. Western Europe, which has increasingly integrated economies and energy sectors, was the world's second ranked energy consumer after the United States in 2003. Members of the EU, with the exception of the United Kingdom, were net energy importers. The EC estimated that the EU would have to import 70% of its total energy and up to 90% of its oil within the next 20 to 30 years if no new measures are taken. The EU has moved to increase the use of renewable energy in the European energy mix. In 2001, the European Parliament approved a Renewables Directive that would require the EU to double its renewable share of energy by 2010. The share of total inland energy consumption met by renewable energy resources was to increase from the current level of 6% to 12% in 2010.

In contrast to Western Europe, almost all countries in Central Europe have a significantly lower base of development with respect to markets, industrial efficiency, commercial and social infrastructure, and per capita GDP. Their transitional process to market economies that are more in accord with those of Western Europe is expected to continue, and this development will require major upstream inputs of iron and steel and nonferrous metals to modernize the area's industries and infrastructure. Consequently, increased consumption of these metals is anticipated. This area has local resources of such nonferrous metals as bauxite, copper, lead, and zinc, and output of these metals is expected to increase to meet most rising consumption requirements. For iron ore and concentrate, Central Europe will continue to rely on imports. Also, the drawdown on stocks of iron and steel scrap for domestic consumption is expected to increase to meet the changing production profiles of the area's steel industries.

Adequate resources of most industrial minerals exist in Central Europe to meet anticipated production and consumption increases. Almost all cement manufacturing and associated quarrying activity has been acquired by major EU cement and building materials manufacturers, and many of these enterprises have been undergoing modernization to bring them into accord with EU standards.

Most of the countries in Central Europe are net importers of energy. Domestic production of brown coal and lignite for electric power generation will be maintained to reduce the need for imported natural gas and petroleum, which has been largely supplied by the CIS. Poland's hard coal industry will continue to modernize and should continue to play an important regional role in the energy field.

The CIS, led by Russia, Kazakhstan, and Ukraine, will for the foreseeable future remain a major supplier of most ferrous, nonferrous, and precious metals to the world market. An increase in domestic consumption of these commodities, which has fallen sharply since the breakup of the Soviet Union, would have a significant effect on the amount of these materials exported to world markets. If consumption levels in the CIS were to approach those of developed market economy countries, the CIS would switch from being a major net exporter to a major net importer of most nonfuel mineral commodities unless there were a significant increase in production. Furthermore, Russian reserves of most metals are adequate for only a period of from 10 to 20 years, and Russia will have to increase its reserves significantly to maintain current production levels beyond this period.

Resources of most industrial minerals in the region are adequate to meet anticipated production and consumption increases, particularly given the current low level of consumption. The distribution of these resources within the CIS is an issue for a number of

countries. For example, more than 90% of barite reserves are in Kazakhstan and Georgia, more than 90% of kaolin reserves are in Ukraine and Kazakhstan, 70% of high-grade bentonite reserves are in the countries of the Caucasus and Central Asia, and 60% of crystalline graphite reserves are in Ukraine (Aksenov and others, 2000).

Russia and other CIS oil and gas producers are among the major providers of hydrocarbons to the world market. Russia, which is the leading producer of natural gas and petroleum in the CIS, was the world's leading producer of natural gas and second ranked producer of petroleum; it ranks only eighth in the world in proven oil reserves, however. According to the Siberian branch of the Russian Academy of Sciences, nearly 60% of all proven oil reserves in Western Siberia, which is Russia's major oil production region, are near depletion (U.S. Energy Information Administration, 2004§).

The Caspian Sea region, which includes the Sea and the States surrounding it, is important to world energy markets because of its potential to become a major oil and natural gas exporter within the next decade. The Caspian Sea region is estimated to hold the world's third largest oil and natural gas reserves behind the Middle East and Russia. New oil discoveries and production in the Caspian Sea region in recent years have not met levels projected in the 1990s. The Caspian Sea's production levels are projected to peak at 4 million barrels per day (Mbbbl/d) in 2015 compared with 45 Mbbbl/d for the members of the Organization of the Petroleum Exporting Countries (OPEC) in that year (U.S. Energy Information Administration, 2001).

Commodity Review

Metals

Aluminum and Bauxite and Alumina.—Western Europe was the main primary-aluminum-producing area in Europe and Central Eurasia and also the main producer of secondary aluminum. Based on reported ongoing and planned facility expansion and/or decommissioning, net changes in production capacity for primary and secondary aluminum for Western Europe through 2009 indicated a slight decrease in primary aluminum production with production of secondary aluminum remaining at the same level. Iceland, owing to its abundance of hydrothermal energy and hydroelectric power, was attractive to aluminum producers and was considering a number of proposals to build new smelters.

Central Eurasia's production of primary aluminum was close to that of Western Europe's, but it was far behind Western Europe in the production of secondary aluminum. Central Eurasia was by far the area's leading producer of bauxite, although not on a scale of the world's leading producers. Russia was the world's second ranked producer of aluminum. A steady increase of Russia's substantial aluminum smelting capacity was projected, which would contribute to Central Eurasia's positive outlook for aluminum production. Russia also was planning to double the amount of secondary aluminum production to between 250,000 and 300,000 t/yr, although no specific date was given for achieving this goal.

Russia's leading aluminum producer was RUSAL, which was the second ranked primary-aluminum-producing company in the world. Growth remained RUSAL's main strategic focus. RUSAL was concentrating on the following projects in Russia: preparatory work for a new 600,000-t/yr aluminum smelter in Irkutsk, with construction due to start in 2006; preparatory work for building the 350,000-t/yr Khakassk aluminum smelter; start of a feasibility study to construct a new alumina refinery at the Severnaya Onega bauxite deposit; and expansion of the Achinsk alumina refinery to 1.2 million metric tons per year (Mt/yr). RUSAL had begun construction of a second aluminum smelter in Sayanogorsk in East Siberia that would have a capacity of 310,000 t/yr. RUSAL was developing its raw materials base with plans to explore for and produce bauxite at three deposits belonging to the Severnaya Onega bauxite group; together, the deposits had total reserves of more than 800 million metric tons (Mt).

The remainder of the country's alumina and aluminum not produced by RUSAL was produced by the Russian firm SUAL, which was the country's major producer of bauxite. SUAL's development strategy to 2010 was to create a vertically integrated aluminum complex, Komi Aluminum, near the City of Ukhta in the Komi Republic that will include bauxite mining and alumina and aluminum production. SUAL was developing the Sredne Timan bauxite mine, which has extensive reserves and was a key element of SUAL's alumina and aluminum production strategy. This complex will have the potential to produce up to 6 Mt/yr of bauxite, 1.4 Mt/yr of alumina, and from 300,000 to 500,000 t/yr of primary aluminum. The development of this complex would decrease the Russian aluminum industry's dependence on imported aluminum raw materials from about 60% to between 20% and 30% and would result in a 50% increase in Russian alumina production to 4.5 Mt/yr. Also, between 2005 and 2010, SUAL planned to invest more than \$500 million in its Irkutsk aluminum smelter in East Siberia, which would double the output capacity at Irkutsk to about 486,000 t/yr.

RUSAL was engaged in plans to increase aluminum production in Tajikistan. RUSAL signed an agreement with the Government of Tajikistan in October 2004 that included the construction of a new aluminum smelter with a 200,000 t/yr capacity and the installation of two new potlines, each with a 100,000 t/yr capacity, at the Tajik Aluminum Smelter. In Kazakhstan, RUSAL planned to construct a 240,000-t/yr-capacity aluminum smelter; the first stage, which was slated for startup in 2007, would have a capacity of 60,000 t/yr and would be supplied with alumina from the Pavlodar alumina refinery in Kazakhstan.

In Central Europe, Hungary commissioned the new 600,000-t/yr-capacity Halimba 2 bauxite mine in 2003. Hungary's bauxite production capacity, which had fallen to about 600,000 t/yr with the closure of the Halimba 1 bauxite mine, would be brought back to 1 Mt/yr with the development of the Halimba 2 mine.

Copper.—In 2003, Central Europe (mainly Poland) and Central Eurasia (Kazakhstan and Russia) were the chief areas for mine production. Although Western Europe was only a minor mine producer of copper, it produced a significant share of the total world output of primary and secondary refined copper. Belgium was the leading producer of primary refined copper in Western Europe and

in 2003 ranked fourth in the region following Russia, Poland, and Kazakhstan. Germany, Spain and Sweden, in that order, followed Belgium as Western Europe's next highest ranked refined copper producers.

Central Eurasia followed Western Europe closely as a producer of refined copper; Central Europe produced less than one-half the amount of refined copper as Central Eurasia. Russia remained the major producer of refined copper in Central Eurasia. Kazakhstan was also a major producer, but produced only about one-half that of Russia. In Central Europe, Poland remained the main producer of refined copper, with output more than 20% above that of Kazakhstan but significantly below that of Russia.

Development and expansion of mine production of copper in Europe and Central Eurasia in conjunction with reported ongoing and planned mine closures could result in a net increase of copper-in-ore production of about 250,000 metric tons (t) by 2009. Kazakhstan, Poland, Russia, and Uzbekistan appeared to be the countries in which production growth could take place in either or both mine output and refined copper production.

In 2003, Kazakhstan, Poland, and Russia ranked among the top 10 countries in the world in mine production of copper. Kazakhmys Plc, which was headquartered in Dzhezkazgan in central Kazakhstan, produced more than 90% of Kazakhstan's copper and was among the world's top 10 refined-copper-producing companies. Kazakhmys planned to increase refined copper output slightly to 425,000 t in both 2004 and 2005, which was higher than its earlier target of 418,000 t. The company had reserves to produce between 430,000 t/yr and 450,000 t/yr and possibly even 500,000 t/yr of copper in 5 years as the company increased its mining and refining capacities.

Russia's leading copper-producing enterprise, MMC Noril'sk Nickel, produced about 55% of Russia's copper output. On March 18, 2003, the Board of Directors of Noril'sk approved the Production Plan to 2015 for the company's operations on the Taymyr and the Kola Peninsulas. The Production Plan to 2015 calls for Noril'sk to mine approximately 14 Mt/yr of ore on the Taymyr Peninsula during this period, which is about its current level, and to mine approximately 6 Mt/yr of ore on the Kola Peninsula (the current level is about 6.4 Mt/yr). On the Taymyr Peninsula, Noril'sk will continue to mine about 7.6 Mt/yr of nickel-rich ores in addition to lower-grade disseminated ores but will increase its production of cuprous ores from 2.5 Mt/yr in 2002 to an average of 5 Mt/yr. Copper production on the Taymyr Peninsula was expected to average approximately 400,000 t/yr and on the Kola Peninsula, approximately 20,000 t/yr. Based on market conditions, Noril'sk may increase its base metals and PGM production by increasing the volume of ore mined, which would raise production on the Taymyr Peninsula to up to 20 Mt/yr; the company could also increase production by accelerating the processing of stored pyrrhotite and other concentrates. Russia could also significantly increase copper output by developing of the Udokan copper deposit in the Trans-Baikal region of Russia. Construction of new copper mining capacity was taking place in the Ural Mountains region of Russia with the development of the Severo-Podol'skiy, the Sibayskiy, the Uchalinskiy, the Uzel'ginskiy, and the Vostochno-Semenovskiy mines, and other mines.

Gold.—In 2003, Central Eurasia remained the dominant producing area for gold within Europe and Central Eurasia and accounted for more than 90% of the region's total output of gold. Central Eurasia's output was projected to increase through 2009.

In 2003, Russia, Uzbekistan, Kazakhstan, and Kyrgyzstan (in order of amount produced) were the leading gold producers in Central Eurasia. Kazakhstan's gold production was mostly byproduct gold associated with the country's nonferrous metals industry.

Russia was expected to continue to be the region's main gold-producing area. Russia had large quantities of undeveloped reserves with which it could increase output. In 2003, Russia ranked third in the world in gold reserves and sixth in the world in mine output of gold. Although the Russian gold industry consisted of 603 gold mining companies, only 24 of them produced more than 1 t/yr. These large companies accounted for all the incremental increase in gold production in 2003.

Although a number of foreign companies operated in Russia, foreign firms had not invested significantly in the Russian gold mining sector. With the rise in gold prices in 2003, however, foreign firms began to purchase Russian gold mining enterprises or shares of these enterprises. For example, the Trans-Siberian Gold (TSG) company of the United Kingdom bought a 100% stake in the Angarsk Industrial Company Ltd., which had a license to explore and mine the Bogunai gold-bearing deposit in the Krasnoyarsk region. TSG also purchased licenses to explore the Asachinskoye, the Kamchatka, the Rodinkovskoye, and the Veduga deposits in the Krasnoyarsk areas. Gold Fields Ltd., which was a South African gold mining major, was in the process of exchanging gold assets with Noril'sk, which owned the large Polus gold mining company and other gold mines. Ireland Miners was active in the gold mining industry in Buryatiya in eastern Russia. In 2003, out of 35 gold-rich regions in the Russian Federation, only 27 regions actually produced gold and only 6 of them produced more than 10 t/yr of gold. Plans called for increasing Russia's gold output in the next decade by about 50%, which would require an investment of about \$1 billion.

After Russia, Uzbekistan was the second ranked producer of gold in Europe and Central Eurasia. Gold was mined primarily at the Muruntau deposit and was also recovered from the mine's tailings, which had accumulated over the years. The Newmont Mining Corp. of the United States continued to process these tailings as part of a joint venture with the Uzbek Government. Production by the joint venture was decreasing because of a decline in the gold content of the tailings. Despite output remaining at about the same level at Muruntau, plans called for Uzbekistan to increase gold production by about 15 t/yr with the development of the Daugyztau and the Kokpatas deposits (Kucherskiy, 2003).

After Kazakhstan, Kyrgyzstan was the fourth ranked regional producer of gold owing to the mining of the Kumtor deposit. Kumtor's gold ore was worked as a joint venture with Canada's Cameco Corporation. Proven reserves at Kumtor as of December 31, 2003, were reportedly 72.5 t (2,330,000 troy ounces) of contained gold, 28.7 t (923,000 troy ounces) of probable reserves, and 101.2 t (3,254,000 troy ounces) of total reserves, with all categories of reserves assessed at 3.3 grams per metric ton (g/t) gold. In addition, Kumtor reportedly has total measured and indicated reserves of 57.9 t (1,862,000 troy ounces) and inferred reserves of 21.2 t (682,000 troy ounces).

A reevaluation of Kumtor's reserves was prepared in 2004 using a cutoff grade of 1.3 g/t gold. Proven and probable reserves, including stockpiles, were estimated to be 92.25 t (2,966,000 troy ounces) of contained gold. About 45% of the increase in reserves was the result of using the higher gold price of \$375 per troy ounce as opposed to the \$325 per troy ounce gold price used for the previous reserve estimate. The remainder was owing to changes in pit design and the addition of reserves from the southwest zone at Kumtor for which a reserve estimate was prepared and development of mining was being planned.

In Kyrgyzstan, development of gold mining also took place at the Dzeruy deposit with reported reserves of more than 100 t of gold in ore at a grade of between 5 and 9 g/t gold. Production was slated to start in 2005 with output of up to 7 t/yr of gold.

Iron and Steel.—The level of steel production throughout the region was not expected to change appreciably through 2009. Some anticipated growth in steel production in Central Eurasia could help offset projected production declines in Western Europe.

In 2003, steel production totaled about 160,000 Mt in Western Europe. Germany continued to be the leading producer of crude steel, followed by Italy, France, and Spain. In Central Europe, Poland was the leading steel producer. Steel production in Central Eurasia totaled more than 100 Mt. Russia and Ukraine accounted for more than 90% of Central Eurasia's steel output, with Russian output almost double that of Ukraine's.

Russia and Kazakhstan were expected to exhibit modest growth in steel production owing to new investment in the modernization of plants. In Russia, increases in investments for renovations will be made at the Magnitogorsk, the Nizhny Tagil, the Novolipetsk, the Severstal, and the Vyska plants. In 2003, Russia was the world's third ranked steel producer, and its increase in production was accompanied by a significant growth in exports.

In Russia, the per capita consumption of steel was about 150 kilograms per year (kg/yr). If Russia's GDP grows as predicted and Russia is in accord with other countries of the world regarding steel consumption, then its per capita steel consumption could range from 300 to 400 kg/yr by 2010. Growth in Russian steel output, however, was projected to decrease to between 4% and 5% per year from its current rate of between 6% and 7% per year owing to the difficulty of obtaining investment funds for the steel sector.

In 2003, Ukraine's growth in output in the ferrous metals sector was driven by exports. About 80% of all ferrous metals output was exported. Ukraine's steel production far exceeded its annual steel consumption of about 5 Mt/yr and Ukraine's annual per capita steel consumption of 100 kilograms (kg) was far below that of North America and the EC (350 to 370 kg) and Japan (670 kg). Ukraine's per capita steel consumption was projected to grow to between 200 and 250 kg/yr by 2010 with the most optimistic estimates calling for per capita consumption to reach 350 kg/yr. Steel production in 2010 was projected to be 40 Mt. If economic reforms are not instituted, however, Ukraine's steel industry could find a worsening of the current situation with a stagnating domestic market for ferrous metals, continued protectionist measures against Ukraine's exports, a slow pace of technological change, unfinished ownership rights delineation, and increasing shortages of raw materials.

Iron Ore.—Russia and Ukraine were the region's major iron ore producers. As of January 1, 2002, according to official Russian reserve calculations, Russia had 172 iron ore deposits with a reserve base that totaled 56.6 billion metric tons (Gt) with an average iron content of 35.87% and reserves that totaled about 25 Gt. Open pit production, which has been on the rise, accounted for more than 90% of ore production. As open pit mining becomes increasingly difficult owing to the increasing depths of the open pits, production increases will be difficult to sustain without significant investment to improve mining conditions. Nevertheless, plans called for iron ore production to increase by 10.8% in 2005 compared with that of 2000, by 12.4% in 2010 compared with that of 2000, and by 11.6% in 2015 compared with that of 2000. Expansion of iron ore mining is planned in the Kursk Magnetic Anomaly (KMA) even though it will require large investment because the ore lies under a thick layer of sedimentary rock that is inundated with water. Development is planned for the Chernayaskoye and the Prioskol'skoye deposits; each deposit contains about 1.5 Gt of ore, of which the Chernayaskoye deposit has 170 Mt of rich ore, and the Prioskol'skoye, 38 Mt. Efforts also were underway to develop technology to mine deeper-lying high-grade ore deposits in the KMA.

Ukraine has about 30 Gt of iron ore reserves. Two-thirds of the iron ore reserves are in the Krivoy Rog Basin, where practically all iron ore mining takes place. Although reserves were adequate to maintain production at the current (2003) rate through 2009, a large increase in production would require significant investment to develop underground mines to access additional reserves and to process large accumulations of iron-rich tailings. Ukraine's reserve base was considered adequate for another 50 to 80 years and would play a key part in sustaining development of Ukraine's ferrous metals sector.

In Central Europe, iron ore output continued on only a small scale as producers developed more electric arc steel production and replaced domestic iron ore production with imports from the CIS. Sweden remained the only significant source of iron ore in Western Europe.

Central Eurasia was expected to continue to be the region's main source of iron ore, with some increase in production for the region projected. Some decline in iron ore production in Central Europe and in Western Europe through 2009 may be compensated for by some production growth in Central Eurasia.

Lead and Zinc.—Western Europe, Central Europe, and Central Eurasia were relatively minor mine producers of lead, although they continued to be important producers of primary and secondary refined lead. In Western Europe, Greece, Ireland, Spain, and Sweden were the significant lead mining countries; in Central Eurasia, Kazakhstan and Russia were the significant lead mining countries. Western Europe was a significant world producing region for primary refined lead, and it produced an even larger share of the world's reported output of secondary refined lead. Central Europe produced a smaller share of the world's output of primary and secondary lead. Poland remained the leading mine producer of lead ore in the entire region. Data on recovery and use of secondary lead in Central Eurasia has remained incomplete, but it was not as large a producing region as Western Europe. Only Kazakhstan was a major producer of primary refined lead.

An overall decline in mine production of lead appeared to be set for this region through 2009, with some increase in mine output projected for Central Eurasia. Such factors as depletion of ore reserves and greater reliance on secondary sources of lead were expected to play an important role in this trend. The most significant change in mine output of lead for the region was projected to take place in Poland, where production could decrease by 50% (60,000 t/yr) between 2002 and 2009. The decline in Polish output was anticipated because of depletion of reserves at the Olkusz-Pomorzany and the Trzebień lead-zinc mines, which will result in closure of these mines in the 2006-08 period. New mine development in other areas of Poland with high-quality lead-zinc ores was not proceeding owing to environmental concerns. The low quality of lead-zinc ores in Russia in terms of metal content in comparison with other parts of the world will inhibit investment in their development (Novikov and others, 2003).

Reported plans for Europe and Central Eurasia indicated a steady level of production of primary refined lead with output buoyed by anticipated production increases in the Central Eurasian and Central European areas, especially in Kazakhstan, which could compensate for decreases in output in Western Europe. In Kazakhstan, the Yuzhpolimetal firm was completing construction of a new 15,000-t/yr lead refinery on the base of the old Chimkent lead plant. Full political stabilization in the Balkans could result in greater lead output by 2009. Plans also called for Uzbekistan to start up a lead plant in 2004 at the Almalyk mining and metallurgical complex (Kozyrev and Karmanov, 2003).

Europe and Central Eurasia's mine output of zinc accounted for about 16% of world production but more than 30% of the world's output of zinc metal. Western Europe was the region's leading producer of primary zinc metal followed by Central Eurasia and Central Europe. Practically all reported data on secondary zinc production comes from Western Europe, which supplied more than 10% of the world's reported secondary zinc output.

The outlook for the region's mine output of zinc appears set to show some increase through 2009. In Western Europe, some increase in mine output of zinc was projected for Ireland owing to the startup of two new mines. In Russia, development of the Tarnerskoye copper-zinc deposit in the Ural Mountains had begun, with startup projected for 2004. The project was scheduled to reach full capacity of 800,000 t/yr of copper-zinc ore in 2005 (Interfax Mining and Metals Report, 2004).

In 2004, Kazakhstan's major zinc producer, Kazzinc, launched a new mining subsidiary that will operate the Shubinskoe underground mine, which has reserves estimated to be 1.5 Mt of polymetallic and copper ores. Mining was scheduled to start in the fourth quarter of 2004. Kazzinc had acquired the Shaimerden deposit in the Kostanai region of Kazakhstan. Production capacity from the Shaimerden mine would be 60,000 t/yr of zinc metal. Kazzinc planned to begin production of zinc from Shaimerden in the summer of 2006. In 2004, Kazzinc was awarded the tender for exploration and development of the Dolinnoe and the Obruchevskoe deposits near the Town of Ridder in eastern Kazakhstan with mining expected to begin in 2011. The company planned to mine 600,000 t/yr of ore from both deposits, which could yield a projected 25,600 t/yr of zinc and 51,000 troy ounces per year of gold.

Zinc metal production was projected to increase mainly in Central Eurasia in Kazakhstan and Russia. Kazakhmys Plc, which controlled all Kazakhstan's copper production, commissioned the 100,000-t/yr-capacity Balkhash zinc smelter in 2003. The new smelter was expected to produce 70,000 t of refined zinc in 2004 and 90,000 t in 2005. In 2002, the Chelyabinsk zinc plant in Russia began operating with a capacity of 200,000 t/yr of zinc (Kozyrev and Karmanov, 2003).

Nickel.—Russia was the world's leading producer of nickel. The majority of Russia's output was obtained from mixed sulfide ores at Noril'sk's operations in East Siberia and, to a lesser degree, its operations on the Kola Peninsula and also from other producers of laterite ores in the Ural Mountains. A significant, but smaller quantity of mined nickel came from Kazakhstan from an extension of the Ural laterite deposits. In Western Europe, relatively small quantities of nickel were mined in Greece from laterite deposits; a much lesser amount was produced by Finland. Russia and countries of Western Europe were major world producers of refined nickel.

Mining of nickel was expected to remain relatively stable through 2009 except in Central Eurasia, where some production increases were possible from Russia's Noril'sk operations in East Siberia (if nickel prices were to warrant increasing production) and from new development in Kazakhstan. Mine production of nickel was expected to decrease in Western Europe, but to begin again in Central Europe during this period.

Bateman Metals Limited, Mintek, and Oriel Resources plc were involved in creating a demonstration-scale project for smelting nickel ores from the Shevchenko deposit in the Zhetigara region of Kustanai oblast in northern Kazakhstan. The deposit contains a resource of 46 Mt of ore at an average grade of 1.01% nickel. This project was part of an ongoing Definitive Feasibility Study to be completed in the third quarter of 2005 for the Shevchenko nickel project. A prefeasibility study was based on a project that would produce 140,000 t of ferronickel at a grade of more than 22% nickel within 5 years of startup. Startup could be as soon as 2007.

Palladium and Platinum.—Russia's Noril'sk complex's operations in East Siberia accounted for virtually all Europe and Central Eurasia's mine output of PGM. Insubstantial amounts of platinum and palladium production also were mined in Finland, Poland, and Serbia and Montenegro. Russia and South Africa were the only two major producers of PGM in the world. Russia was the world's second ranked producer of PGM after South Africa in 2003 and was the world's leading palladium producer owing to a higher ratio of palladium to platinum in Russian ores than in South African ores. Both metals have major applications in the industrial sector. Palladium and platinum are critical components of catalytic converters that control automobile emissions, and platinum is the critical catalytic element in the Proton Exchange Membrane (PEM) fuel cell (under development) that could power automobiles. PGM will be in much greater demand as the world's automobile fleet increases and is equipped with catalytic converters, as legislation that calls for stricter automobile emissions controls is enacted and enforced, and as the necessity arises to find alternative sources of energy to oil, which could result in the development of a hydrogen-based economy powered by fuel cells that use platinum as a catalyst.

Noril'sk mined more than 90% of Russia's PGM output from mixed sulfide ores from deposits at its Polar Division in East Siberia. As much as 10 t/yr of PGM (mostly platinum) had been mined from placer deposits in the Russian Far East, Siberia, and the Ural Mountains, although it appears that a lesser amount was mined in 2003. Noril'sk's long-term development strategy appeared to be

oriented towards PGM production rather than nickel production as nickel-rich ores become depleted; Noril'sk's remaining resources are richer in PGM relative to copper and nickel than the nickel-rich ores. Along with developing new ore sources, Noril'sk was continuing to develop the capability to recover PGM from abundant pyrrhotite tailings that had accumulated from many years of mining. Noril'sk did not plan to increase PGM production in Russia through the period 2009, although this scenario could change if the price of these metals were to make it more advantageous to produce more PGM. Russian production was expected to continue to account for almost all the region's output of PGM.

Silver.—The region of Europe and Central Eurasia was an important source of mined silver production in 2003, with production coming from, in order of amount produced, Central Eurasia, Western Europe, and Central Europe. The dominant portion of silver output was a byproduct of nonferrous metals processing. Poland, Russia, Kazakhstan, and Sweden, in that order, were the region's main producers of silver. Russia was expected to be the principal contributor to regional growth of silver output through 2009. Russia was adding new capacity to the Dukat silver mine in Magadan oblast in the Russian Far East, which could increase silver production in Russia by at least 50% by 2009 (Brayko and Ivanov, 2003).

Tin.—Mine output of tin in Europe and Central Eurasia was minor by world standards. Portugal and Spain in Western Europe and Russia and, to a lesser extent, Kyrgyzstan in Central Eurasia were the region's main mine producers of tin.

Despite a large drop in Russian tin production since the dissolution of the Soviet Union, Russia was still ranked among the world's 10 leading tin producers in 2003. Russian companies were also involved in tin development in Kyrgyzstan. The Novosibirsk tin complex, which was a monopoly tin producer, controlled Russia's only major tin smelter and held a large share of the country's tin mining enterprises.

Compared with the region's production of mined tin in 2002, mine output of tin in 2007 was anticipated to increase somewhat owing mainly to the Novosibirsk tin mining and metallurgical complex's plans to more than double mine output of tin and to increased production in Kyrgyzstan. Novosibirsk also planned to increase tin metal output to more than 8,000 t/yr. Novosibirsk, which had been producing a significant percentage of its tin metal from imported raw materials, planned to almost double current levels of investment in tin mining at its Dalolovo, Deputatskolovo, Khinganolovo, and Vostokolovo tin mining enterprises. Also, tin mine production was projected to increase because of plans to increase output at the existing Molodezhnoye and Perevalnoye deposits and to bring production to commercial levels at the Pravouimiiskoye deposit, for which infrastructure was under construction.

Titanium.—Europe and Central Eurasia's mine production of ilmenite was substantial. Ukraine was the major regional producer and Norway also continued to be an important source of ilmenite. Ukraine, which was the only major producer of titanium raw materials in Central Eurasia, produced both ilmenite and rutile and continued to supply the titanium-metals-producing plants in the CIS. Ukraine was increasing production of ilmenite and rutile concentrates at existing enterprises. Also, Titanium-Apatite Company (Tako) (a Kiev-based company that was more than 70% owned by Russia's Renova Group of Companies), which was the main shareholder of Russia's second ranked aluminum company SUAL and Russia's Tyumen Oil Co., was planning to conduct a feasibility study for the construction of a mining complex to develop an apatite-ilmenite deposit in Zhitomir oblast in Ukraine. The complex would have the capacity to mine 6 Mt/yr of apatite-ilmenite ore from which it would produce 573,000 t/yr of ilmenite concentrate, 450,000 t/yr of apatite concentrate, and 417,000 t/yr of titanium-magnetite concentrate. In July 2004, the President of Ukraine signed a decree on developing production of titanium dioxide and raising the capacities for mining ilmenite ore.

In Russia, plans called for development of the Lukoyanovskoye titanium-zirconium deposit in the Nizhniy Novgorod region. The mineral sands at the deposit contain an ilmenite-chromite-hematite product, rutile, and have a high zirconium content. In the first phase of the mine, which was scheduled to be built in 2006, 480,000 t/yr of sand will be mined to produce 30,000 t/yr of concentrate. Sand mining was projected to increase to 2 Mt/yr upon completion of the mining complex. The United Kingdom's Aricom plc is planning to construct a mine at the Kuranakh ilmenite-magnetite-apatite deposit in the Amur region of Russia. Ore reserves within the licensed area of the Kuranakh deposit have been assessed at 35.4 Mt of titanium ore that contains 3.33 Mt of titanium dioxide. The deposit development program called for two stages of construction. A mine and beneficiation plant with an output capacity of 240,000 t/yr of ilmenite concentrate with a titanium dioxide content of from 48% to 49% would be built in the first stage; operations would begin by 2007. During the second stage of construction, a titanium dioxide plant in Tynda with production of from 70,000 to 80,000 t/yr of titanium would be built, with production slated to begin in 2008.

The Avisma titanium-magnesium complex, which was Russia's major producer and one of the world's leading producers of titanium sponge and mill products, planned to increase its output and exports of titanium products. The AO Ust'-Kamenogorsk titanium and magnesium complex was Kazakhstan's only titanium-sponge-producing plant. AO Ust'-Kamenogorsk exports all its titanium sponge outside the CIS. The state-owned Zaporizhya titanium and magnesium plant, which was Ukraine's only producer of titanium sponge, had an initial design capacity to produce 20,000 t/yr of titanium, although it was operating far below that level. The plant exported most of its output outside the CIS. The Zaporozh'ye plant commissioned a new unit for refining titanium sponge. The sponge was used in Ukraine to make titanium ingots at the Titan Scientific and Industrial Center of the E. Paton Institute of Electric Welding and at the Kiev-based Antares company.

Tungsten.—Russia was the region's major tungsten mining country, although significant quantities of tungsten were also mined in Austria and Portugal. The tungsten trioxide content of Russian reserves at its major tungsten mining enterprises was on average more than two times lower than in deposits under development in other countries. Since 1990, Russian tungsten production has fallen sharply, and tungsten reserves have also decreased. Although the Tyrny Auz tungsten-molybdenum mining and beneficiation complex in the North Caucasus had been one of Russia's major tungsten-producing enterprises, only two tungsten mining and beneficiation complexes in Russia (the Lermontovskiy and the Primorskiy in the Russian Far East) have a high enough tungsten content in their ores to be considered competitive in terms of quality. Russian production could be maintained by expanding capacity

for mining tungsten ore at existing mining enterprises and by developing reserves at new deposits, including a number of small deposits with rich ore. In Russia, a feasibility study was being conducted at the Tyrny Auz Mine, which has proven reserves of more than 250,000 t of tungsten and is one of the world's largest deposits. The study was focused on exploration of a part of the ore body that contains 20 Mt of ore with a tungsten trioxide content of 0.35%. The project envisioned mining and processing between 1 and 1.3 Mt/yr of ore, with the concentrates to be converted into ammonium paratungstate (APT) and other products at the Nal'chik hydrometallurgical plant.

In Uzbekistan, Metal Tech Ltd. of Israel was preparing a feasibility study on the renovation of the country's tungsten industry based on tungsten reserves in the Uchkuduk area, with production to be processed at the Chirchik heat-resistant and refractory metals plant. The project, as envisaged, would produce about 2,000 t/yr of tungsten products.

Industrial Minerals

Diamond.—Russia was the region's only diamond producer. In accordance with Russia's participation in the Kimberley Process, Russia released its diamond production and trade figures, which for decades in both the Soviet Union and Russia had been held as a state secret. The data revealed that Russia was the world's leading diamond producer. The Kimberley Process is a joint government, international diamond industry, and civil society initiative to stem the flow of conflict diamond, which is rough diamond that is used to fund rebel movements and terrorist activity.

The Russian Ministry of Finance released data that reported that, in 2003, Russia was the world leader in rough diamond production in terms of physical volume and ranked second after Botswana in terms of the value of the diamond mined. In 2003, Russia was the second ranked exporter of rough diamond after the European Union and was the leader among producing countries in terms of volume. Russia produced a wider assortment of rough diamond than most other diamond-extracting countries.

The data in table 4 for 2003, which was recorded before the release of data from the Kimberley Process, does not reflect reported 2003 production, which was 33,019,000 carats. Reported data for the first half of 2004 showed diamond production increasing to 17,763,000 carats for the first half of the year owing to the start of production in the second half of 2003 at Alrosa's Nyurba enterprise in Western Yakutia. Plans for 2005 called for diamond production in Yakutia to be sustained at the 2004 level.

Russian diamond monopolist Almaz Rossii Sakha (Alrosa) planned to expand its underground mining operations and exploration activities. The company's 2005 program, which was based upon Alrosa's 10-year development guidelines, called for the expansion of underground mine production at existing open pits as its first priority. By switching to underground mining, Alrosa believed that it would have enough reserves to last for an additional 40 years.

Severalmaz, which was a subsidiary of Alrosa, planned to start production in mid-2005 at the new Lomonosov diamond field in the Arkhangel'skaya oblast. Severalmaz planned to start the first stage of a mine and mill with the capacity to produce and process 1 Mt/yr of ore and, by 2009, to have the second stage in operation with the capacity to mine and mill 5.6 Mt/yr of ore to produce between \$200 million and \$250 million per year of diamond. The Lomonosov Field is estimated to contain \$12 billion in diamond, of which one-half is gem quality.

Phosphate Rock.—Russia was the major producer of phosphate rock raw materials in Europe and Central Eurasia in 2003. Phosphate rock production in other areas of Europe and central Eurasia was insignificant by contrast with Russian output. Russian phosphate rock production came almost entirely from apatite ore on the Kola Peninsula. Reserves of apatite ore on the Kola Peninsula exceeded 3.2 Gt and averaged about 14% P₂O₅. The Apatite Production Association on the Kola Peninsula was the country's major producer of phosphate raw material in the form of apatite concentrate that averaged between 35% and 39% P₂O₅. Apatite concentrate exports from the Kola Peninsula amounted to more than one-third of total apatite concentrate production. The Kola operation has been subject to decreasing levels of ore quality and more-complicated mining and hydrological conditions owing to the growing depth of the mines. Plans called for maintaining apatite concentrate production in a range of between 9 and 9.5 Mt/yr, which would require attracting investment to maintain existing production capacities and assessing new opportunities for preparing new horizons for underground mining. Also, in Central Eurasia, Uzbekistan was developing its phosphate rock mining industry.

Mineral Fuels

Most of the countries in Western Europe and Central Europe are net importers of energy. With the exception of North Sea hydrocarbon production, Western Europe's sources of energy were expected to continue to be based on imports from the Middle East and the CIS. Major increases in energy consumption in the near term were not anticipated.

In Central Europe, domestic production of brown coal and lignite for electric power generation will be maintained to reduce the need for imported natural gas and petroleum, which has been supplied largely by the CIS. Poland's hard coal industry will continue to modernize and will likely continue to play an important regional role in the energy field. Lignite, which was the main fuel used to power thermal electric power stations, continued to be an important source of energy in Central Europe and the Balkans.

Russia and other CIS oil and gas producers are likely to continue to be among the major providers of hydrocarbons to the world market. The energy sector in Russia has been estimated to account for as much as 25% of the country's GDP, making the Russian economy highly sensitive to changes in energy prices (U.S. Energy Information Administration, 2004§). The rate of increase of future deliveries of these commodities to the world market along with the successful exploration and development of new deposits will depend in part on the resolution of pipeline and transport issues for their delivery.

Coal.—In 2003, Poland remained Central Europe's leading producer of anthracite, bituminous coal, and lignite. Poland's hard coal industry will continue to modernize and should continue to play an important regional role in the energy field. The CIS was the major coal-producing region in Europe and Central Eurasia. Coal was produced in, in order of amount produced, Russia, Ukraine, and Kazakhstan, and a number of other CIS countries.

Russia's coal production in the past several years has been increasing as the Russian economy has grown and domestic demand for coal has increased. To satisfy the increased domestic demand for energy, Russia planned to increase its coal production to 280 Mt/yr in 2005, 340 Mt/yr in 2010, and 450 Mt/yr in 2020. The first stage of development (up to 2010) will make full use of existing production capacities, including transportation and energy resources for mining and transporting coal. During the second stage (from 2010 to 2020), Russia planned to expand coal production in the Kuznetsk and the Kansk Achinsk Basins, which are the two largest coal resources in the country, as well in other basins of East Siberia and the Russian Far East. Achieving the goals of the second stage, however, will require the creation of a new technological base for mining and using coal, particularly lignite, which will involve employing large-scale coal beneficiation in the area where it is mined, improving methods and means for transporting coal, and the large-scale introduction of environmentally sound technologies for converting coal into electricity. Developing these technological innovations will require significant capital investment.

Ukraine has 34.1 Gt in proven coal reserves, which accounted for more than 60% of the FSU's total coal reserves. The decrease in coal extraction following the dissolution of the Soviet Union began to reverse in 1997 and, since then, coal production has increased. Goals were set to stabilize coal extraction at between 85 and 90 Mt/yr. Most of Ukraine's coal is mined in the Donets Basin (Donbas) in the eastern part of the country.

According to Kazakhstan's classification system for mineral reserves, total geologic coal resources were assessed to be between 150 and 160 Gt, of which 62% is brown coal, and the remainder, bituminous coal. Kazakhstan plans to increase annual coal production to more than 85 Mt by 2005.

Natural Gas.—Central Eurasia (mainly the Russian Federation) produced a substantial share of the world's production of natural gas, which in 2003 amounted to almost 30% of the world total. Western Europe accounted for less than 10% of world output, and Central Europe, about 1%. Russia, which has the world's largest reserves of natural gas, remained the world's leading natural gas producer and exporter. To maintain output, Russia will have to develop new fields. Most of these fields are located in the more-remote regions that lack infrastructure and would require a high level of investment.

In Russia's energy strategy, gas production projections were revised downwards in its modest case projection, with gas production projected in the neighborhood of 620 billion cubic meters by 2010 and 650 billion cubic meters by 2020; and in the optimistic case projection, production would be about 650 billion cubic meters by 2010 and 700 billion cubic meters by 2020. The older projection called for gas production to increase to about 630 billion cubic meters by 2010 and to about 660 billion cubic meters by 2020. East Siberia and the Russian Far East would be the source of increased production as production was projected to decline in the country's major producing region of West Siberia and to increase only slightly in the much smaller gas-producing regions of the European part of Russia.

Unlike the case with oil, proven natural gas reserves were adequate to provide for projected production increases in East Siberia and the Russian Far East. Plans were formulated to develop the Kovyatka gas field in Irkutsk oblast in East Siberia and to construct a pipeline to deliver this gas to China and the Republic of Korea instead of to North Korea and Japan.

Kazakhstan and Turkmenistan, which are large regional producers of natural gas, also could be major factors in the region's expected rise in output. Much of Kazakhstan's natural gas production increases are expected to come primarily from associated gas at Kazakhstan's three largest oil fields: Karachaganak, Kashagan, and Tengiz. The Government of Kazakhstan planned to increase natural gas production fivefold by 2010 to 60 billion cubic meters per year according to a program to develop its natural gas industry in the period 2004 to 2010.

Turkmenistan was one of the leading countries in the world in the quantity of its natural gas reserves. All gas pipelines that connect Turkmenistan to world markets were owned by the Russian company Gazprom and routed through Russia. In the 1990s, Turkmenistan was denied access through this pipeline network to world markets and thus Turkmenistan's incentive to produce natural gas was greatly reduced. In 1999, a Turkmenistan-Russian agreement took effect that enabled Turkmenistan to increase its gas exports and gas production. In 2003, Turkmenistan signed a new agreement with Russia and Uzbekistan to increase exports to both countries substantially during the next 25 years. An agreement signed with Russia in January 2005 specified that Turkmenistan would initially export about 6 billion cubic meters of natural gas to Russia in 2005, would increase that amount to about 68 billion cubic meters per year in 2007, and would maintain that level of 68 billion cubic meters per year from 2009 to 2028. Turkmenistan also agreed to supply Ukraine with up to 34 billion cubic meters per year of natural gas until 2006 and planned to extend this agreement through 2016.

Azerbaijan, which had become a major regional producer of oil, was expected to become a major regional natural gas producer through development of the Shah Deniz offshore natural gas and condensate field, which is located in the Caspian Sea approximately 60 miles southeast of Baku; this field is thought to be one of the world's largest natural gas fields discovered in the past 20 years. According to British Petroleum (BP), the project's operator, the field contains potential recoverable resources of roughly 400 billion cubic meters (about 14 trillion cubic feet) of natural gas. Shah Deniz is being developed by the Shah Deniz consortium whose members include BP p.l.c., LukAgip, National Iranian Oil Company (NICO), Statoil ASA, State Oil Company of Azerbaijan (SOCAR), Total S.A., and Türkiye Petrolleri A.O. (TRAO). In 2006, once new infrastructure is in place, Shah Deniz will be capable of producing approximately 8.4 billion cubic meters (296 billion cubic feet) per year, which will make Azerbaijan self sufficient in natural gas and will generate significant export revenue.

Petroleum.—Although Central Eurasia's oil production was centered mainly in Russia in West Siberia, development of major new petroleum resources was taking place offshore in the Caspian Sea by the littoral states in conjunction with major Western firms.

In 2003, Azerbaijan recorded only a slight increase in oil production and despite current (2003) development of its offshore resources, significant increases in oil production would not take place until late 2005. Estimates of Azerbaijan's proven crude oil reserves range between 7 billion and 13 billion barrels. By 2004, Azerbaijan had signed more than 20 major oil-development agreements with approximately 30 companies from 15 countries.

Azerbaijan's main increase in production is projected to come from the three-stage development of the Azeri, Chirag, and deepwater Gunashli (ACG) megastructure. Production is planned to reach about 500,000 bbl/d by 2007 when the first stage is fully implemented. Implementation of Stage 2 was expected to increase production to about 1 Mbbbl/d by 2009. Plans were being formulated for Stage 3, which would complete development. If the first two stages are successfully implemented, the country could be exporting about 1 Mbbbl/d by 2010.

Kazakhstan produced about 45 Mt of oil in 2003 and exported about 90% of its output. The country was planning to increase oil production owing in large measure to the development of the Kashagan offshore field in the Caspian Sea. Plans to develop the Kashagan Field were postponed, and initial output of 21 Mt/yr was not expected until 2010. Production from Kashagan was projected to reach 42 Mt/yr in 2013 and to reach maximum capacity of 56 Mt/yr in 2016. Kashagan has been described as the largest oil discovery in the world in the past 25 years.

In 2003, Russian oil production increased by about 9% compared with that of 2002. Russia was the world's second ranked oil producer and oil-exporting country. Domestic oil consumption rose only marginally and almost all of the increased production was exported. Russia issued a program entitled "Energy Strategy of Russia for the Period up to 2020" approved in May 2003, which revised previous projections of oil production upwards and gas production downwards. While the previous strategy called for oil production to rise to about 330 Mt in 2010 and to about 350 Mt by 2020, the new strategy called for a moderate case assumption of oil production rising to about 440 Mt in 2010 and falling slightly to about 420 Mt by 2020; the optimistic case projection called for oil production to rise to almost 500 Mt by 2010 and to continue to rise to about 530 Mt by 2020. New production in East Siberia and the Russian Far East would account for a large part of the increase because production was projected to remain stable or to decrease in the current oil-producing areas.

Oil reserves in East Siberia and the Russian Far East, however, currently (2003) would not support large increased production, and a successful exploration program would have to be conducted in this region to achieve projected production goals. After 2010, all growth in oil production would have to come from undiscovered fields.

Uranium.—The region of Europe and Central Eurasia was a major source of yellow cake [uranium oxide (U_3O_8)]. Uranium ore mining took place mainly in the Central Eurasian countries. Russia did not produce enough uranium to meet its consumption requirements and had to consume stockpiled material. Russia was planning to make up for shortfalls by participating in uranium development projects at home and abroad. Russia planned to increase the capacity of its nuclear reactors by 50% by 2010 and by more than 450% by 2050. Russia's Ministry of Natural Resources has drafted a program called Uranium of Russia to explore for new uranium deposits to help meet Russia's expected yellow cake requirements of 17,000 t/yr in the next decade.

Kazakhstan's national nuclear company Kazatomprom was the country's sole producer, exporter, and importer of yellow cake. The Government of Kazakhstan planned to more than triple yellow cake output to 12,000 t/yr by 2015. Kazatomprom intended to increase production by increasing output at existing mining operations and by developing new mining operations. Plans called for the development of mines at the Central Moinkum, the Eastern Mynkuduk, the Inkai, and the Kharasan deposits and joint-venture development of the Irkol, the Moinkum, the Tortkuduk, and the Zarechnoye deposits as well as construction of enrichment plants at the Shestoye, the Stepnoye and the Tsentralnoye Mines. Plans also called for construction of a conversion plant to produce 3,000 t/yr of uranium hexafluoride for sale on world markets as well as for processing uranium scrap into uranium dioxide and fuel pellets.

Total uranium in ore reserves in Uzbekistan reportedly were about 185,000 t, of which approximately 114,000 t could be developed by the in situ leaching (ISL) method. The country's uranium production had decreased by almost one-half since the Soviet period, and the country was instituting a program to increase uranium output in the near future by investing in modernizing the Navoi mining and metallurgical complex, which was the country's main uranium producer. A \$6 million upgrade would enable Navoi to increase uranium ore output by 33%.

Uzbekistan was the major source of uranium in the Soviet Union. Before 1992, all uranium mined and milled in Uzbekistan was shipped to Russia. Since 1992, all of Uzbekistan's yellow cake production has been exported mainly to the United States through the United States-based intermediary Nukem, Inc.

Overall Mineral Consumption.—Consumption of practically all mineral commodities in the transitional economy countries of Europe and Central Eurasia fell sharply during the 1990s. This decline linked the continued existence of many of the mineral industries in these countries to producing products for export. Russian per capita consumption of nonferrous metals generally was in the range of 15% to 30% that of the United States and Japan (Sokolov and Yagol'nitsner, 2004). If there were to be a revival of mineral demand in Russia and the other CIS countries, supplies to world markets from CIS countries could become greatly restricted. For example, if the CIS consumed as much oil as the Soviet Union, then exports would fall precipitously from about 350 Mt/yr to 50 Mt/yr if CIS production did not increase to compensate for the increase in consumption. A similar if not more dramatic shift would occur for nonfuel minerals. At current consumption levels, the CIS is a major exporter of all metals except tin. At U.S. consumption levels, the CIS would switch from being a major net exporter to a major net importer of every metal it now exports except nickel unless the CIS significantly increases metals production.

A revival of domestic demand would result not only in increased domestic consumption but also in the production from these mineral commodities of more value-added products for export and would significantly change the mineral trade profile of this region. As would be the case with any major populated region of the world that was raising its mineral consumption to the level of more advanced industrialized countries, the overall demand for the world's mineral resources would increase.

Consumption of minerals in Western Europe has not shown any significant shifts in 2003 or in recent years. The area's low population growth and fully developed industrial base have accounted for the steady rate of mineral consumption.

Environment

Environmental problems were most evident in the CIS and Central Europe. Western Europe, although having to deal with the environmental issues typical of an advanced industrial society, was in many areas taking the lead to address these problems.

In the CIS, the historical neglect of the environment has created a state of crisis. Poor agricultural, mining, and manufacturing practices have led to contaminated air, soil, and water supplies and dangerous levels of untreated toxic and hazardous waste. Some environmental reform efforts have been made; the damage done, however, is such that these efforts have made little difference. Environmental degradation is evident in many Russian cities, lakes, rivers, in areas around factories, and in the country's forests. The World Bank has committed more than \$300 million to help Russia implement programs to clean up past pollution, to improve the management of its natural resources, and to preserve its wildlife (World Bank, 2005a§).

In Central Europe, the state of the environment was improving slightly owing to focused efforts on the part of the cities and local municipalities. Many Central European cities were further urbanized as a result of planned industrialization during the Soviet regime. The urban populations are located near and around factories, industries and large centers of employment. For example, one-third of Hungary's entire urban population lives in and around Budapest. The area is still plagued with severe toxic waste problems, high pollutant emissions, urban air pollution, failing oil pipeline leakages, serious nuclear safety problems, and gas leakages. Much of the water, gas, and electricity utilities and infrastructure throughout Central Europe are in a deteriorating or nonfunctional condition. Economic transition has had a direct impact on the energy and infrastructure sectors, as they have become the least financially stable of all the previously state-owned enterprises. As a result, capital investments for much-needed equipment and facility repairs and expansion have not been made (World Bank, 2005a§).

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TABLE 1
EUROPE AND CENTRAL EURASIA: AREA AND POPULATION

Region and country	Area ¹ (square kilometers)	Population ² (thousands)
Central Eurasia:		
Armenia	29,800	3,056
Azerbaijan	86,600	8,233
Belarus	207,600	9,881
Estonia	45,226	1,350
Georgia	69,700	5,126
Kazakhstan	2,717,300	14,908
Kyrgyzstan	198,500	5,052
Latvia	64,589	2,321
Lithuania	65,200	3,454
Moldova	33,843	4,238
Russia	17,075,200	143,425
Tajikistan	143,100	6,305
Turkmenistan	488,100	4,863
Ukraine	603,700	48,356
Uzbekistan	447,400	25,604
Total	22,275,858	286,172
Central Europe:		
Albania	28,748	3,169
Bosnia and Herzegovina	51,129	4,140
Bulgaria	110,910	7,824
Croatia	56,542	4,456
Czech Republic	78,866	10,202
Hungary	93,030	10,120
Macedonia	25,333	2,049
Poland	312,685	38,195
Romania	237,500	22,200
Serbia and Montenegro	102,350	8,104
Slovakia	48,845	5,381
Slovenia	20,273	1,964
Total	1,166,211	117,804
Western Europe:		
Austria	83,858	8,059
Belgium	30,510	10,348
Denmark	43,094	5,387
Finland	337,030	5,210
France	547,030	59,725
Germany	357,021	82,551
Greece	131,940	10,680
Iceland	103,000	286
Ireland	70,280	3,947
Italy	301,230	57,646
Luxembourg	2,586	448
Malta	316	399
Netherlands	41,526	16,215
Norway	324,220	4,560
Portugal	92,391	10,191
Spain	504,782	41,101
Sweden	449,964	8,956
Switzerland	41,290	7,344
United Kingdom	244,820	59,280
Total	3,706,888	392,333
Regional total	27,148,957	796,309

¹Source: Central Intelligence Agency, The World Factbook 2003.

²Source: World Bank, World Development Indicators Database 2004.

TABLE 2
EUROPE AND CENTRAL EURASIA: GROSS DOMESTIC PRODUCT^{1,2}

Region and country	Purchasing power parity (million dollars)	Per capita (dollars)	Annual percentage change (constant prices)
Central Eurasia:			
Armenia	11,000	3,770	13.9
Azerbaijan	29,700	3,380	11.2
Belarus	59,400	6,010	6.8
Estonia	18,000	12,480	4.7
Georgia	13,200	2,540	8.6
Kazakhstan	97,700	6,170	9.2
Kyrgyzstan	8,700	1,660	5.4
Latvia	23,200	10,130	7.5
Lithuania	38,900	11,090	6.5
Moldova	6,400	1,750	6.3
Russia	1,318,800	8,920	7.3
Tajikistan	7,100	1,040	10.2
Turkmenistan	28,600	5,840	16.9
Ukraine	264,600	5,410	9.4
Uzbekistan	44,500	1,720	4.4
Total	1,969,800	XX	XX
Central Europe:			
Albania	14,500	4,700	6.0
Bosnia and Herzegovina	25,000	6,320	3.5
Bulgaria	61,100	7,610	4.3
Croatia	49,600	10,710	4.3
Czech Republic	167,800	15,650	2.9
Hungary	147,500	13,780	2.9
Macedonia	13,900	6,720	3.1
Poland	443,900	11,450	3.8
Romania	160,300	7,140	7.6
Serbia and Montenegro	NA	NA	3.0
Slovakia	72,500	13,420	4.2
Slovenia	37,900	19,240	2.3
Total	1,194,000	XX	XX
Western Europe:			
Austria	241,500	29,610	0.7
Belgium	293,800	28,930	1.1
Denmark	170,400	31,210	0.4
Finland	142,000	27,100	1.9
France	1,632,100	27,460	0.1
Germany	2,279,100	27,460	0.0
Greece	213,300	19,920	4.7
Iceland	8,800	30,140	1.9
Ireland	145,200	30,450	1.8
Italy	1,559,300	26,760	0.3
Luxembourg	28,200	54,430	1.2
Malta	7,100	17,870	NA
Netherlands	476,900	28,600	-0.5
Norway	169,000	37,300	0.3
Portugal	188,000	17,980	-0.8
Spain	915,100	22,020	2.4
Sweden	238,700	26,620	1.6
Switzerland	221,700	32,030	-0.5
United Kingdom	1,606,900	27,650	2.2
Total	10,537,100	XX	XX
Regional total	13,700,900	XX	XX

NA Not available. XX Not applicable.

¹Source: World Bank, World Development Indicators Database 2004.

²Source: International Monetary Fund, World Economic Outlook Database 2005.

TABLE 3
SELECTED EXPLORATION ACTIVITY IN EUROPE AND CENTRAL EURASIA IN 2003

Country	Site	Commodity ¹	Company	Phase ²	Type ³
Armenia	Zod	Au	Sterlite Gold Ltd.	Feas.	Ext.
Bulgaria	Rosino	Au	Hereward Ventures plc	Expl.	Cont.
Finland	Hanhimaa/Kellolaki	Au	Dragon Mining NL	Expl.	New
Do.	Haveri	Au	Northern Lion Gold Corp.	Expl.	New
Do.	do.	Au	Vision Gate Ventures Limited	Expl.	New
Do.	Kopsankangas	Au	Belvedere Resources Ltd.	Expl.	New
Do.	Lentiira	Diamond	European Diamonds plc	Expl.	Cont.
Do.	Portimo/Saariaapa/Ristiaapa	PGM,Au	South Atlantic Resources Ltd.	Expl.	New
Do.	Suurikuusikko	Au	Riddarhyttan Resources AB	Devel.	Ext.
Greenland	Ammassalik	Ni,Cu,PGM,Au,Ag	Diamond Fields Int'l. Ltd.	Expl.	New
Do.	Nalunaq	Au	Crew Development Corp.	Devel.	Ext.
Do.	Seqi	olivine	do.	Feas.	Ext.
Ireland	Avoca	Au	Minco plc.	Expl.	Cont.
Do.	Ballygreany	Au	Conroy Diamonds and Gold plc.	Expl.	New
Do.	Curraghinalt	Au	Tournigan Gold Corp.	Expl.	Cont.
Do.	Tipperkevin	Au	Minco plc.	Expl.	Cont.
Do.	Tyrone/Glenlark	Au,Ag,Zn,Pb	Tournigan Gold Corp.	Expl.	Cont.
Do.	Glenlark	Au	do.	Expl.	Cont.
Italy	Furtei	Au	Sargold Resource Corp.	Prod.	Ext.
Do.	Monte Ollasteddu	Au	Gold Fields Limited	Expl.	Cont.
Kazakhstan	Shaimerden	Zn	ZincOx Resources plc.	Feas.	Ext.
Do.	Shorskoye	Mo	Eureka Mining plc	Expl.	New
Do.	Suzdal	Au	Celtic Resources plc.	Prod.	Ext.
Do.	Uzboy East/West	Au	Alhambra Resources Ltd.	Devel.	Ext.
Do.	Varvarinskoye	Au,Cu	European Minerals Corp.	Feas.	Ext.
Do.	Zherek	Au	Celtic Resources plc.	Prod.	Ext.
Kyrgyzstan	Altyn Jilga	Au	Central Asia Gold Limited	Expl.	Cont.
Do.	Jerooy	Au	Oxus Gold plc.	Feas.	Ext.
Norway	Finnmark	PGM,Au	Tertiary Minerals Ltd.	Expl.	Cont.
Do.	Unnamed	Au	SNSK	Expl.	New
Do.	Vakkerlien/Espedalen	Ni,Cu	Blackstone Ventures Inc.	Expl.	New
Portugal	Gralhaera-Jales	Au,Ag	Kernow Resources Ltd.	Expl.	Cont.
Do.	do.	Au	St. Elias Mines Ltd.	Expl.	Cont.
Do.	Campo Maior/Beja	Ni	Rio Narcea Gold Mines Ltd.	Expl.	New
Romania	Bucium/Rodu/Frasin	Au	Gabriel Resources Ltd.	Expl.	Cont.
Do.	Certej/Craciunesti	Au,Ag	European Goldfields Ltd.	Expl.	Cont.
Do.	Certej/Sacaramb	Au,Ag	do.	Expl.	Cont.
Do.	Rosia Montana	Au,Ag	do.	Devel.	Ext.
Do.	Sacaramb	Au,Ag	do.	Expl.	Cont.
Do.	Sacu/Gladna	Cu,Au	International Goldfields Ltd.	Expl.	Cont.
Do.	Zlatina/Popa Stanjie	Au,Cu	European Goldfields Ltd.	Expl.	Cont.
Do.	Zlatina/Trimpoiele	Au,Cu	do.	Expl.	New
Russia	Berezitovoye	Au,Ag	High River Gold Mines Ltd.	Feas.	Ext.
Do.	East Pansky	Pt,Pd	Bema Gold Corp.	Expl.	Cont.
Do.	Kubaka/Birkachan	Au	Kinross Gold Corp.	Prod.	Ext.
Do.	Kumroch	Au	Eurasia Mining Plc.	Expl.	New
Do.	Kupol	Au,Ag	Bema Gold Corp.	Expl.	Cont.
Do.	Nezhdaninskoye	Au,Ag	Celtic Resources plc.	Devel.	Ext.
Do.	Veduga	Au	Trans-Siberian Gold plc	Expl.	Cont.
Do.	West Kytlim	Pt	Eurasia Mining plc	Expl.	Cont.
Slovakia	Ceske Brezovo	Au	Majestic Gold	Expl.	New
Do.	Kremnica	Au	Tournigan Gold Corp.	Feas.	Cont.
Do.	Kremnica South	Au	do.	Feas.	Cont.

See footnotes at end of table.

TABLE 3--Continued
SELECTED EXPLORATION ACTIVITY IN EUROPE AND CENTRAL EURASIA IN 2003

Country	Site	Commodity ¹	Company	Phase ²	Type ³
Spain	Aguablanca	Ni,Cu,PGM,Au,Ag	Rio Narcea Gold Mines Ltd.	Feas.	Ext.
Do.	Doade-Presqueira	Ta,Li,Sn,Nb	Solid Resources Ltd.	Expl.	New
Do.	Las Cruces	Au	MK Gold Company	Feas.	Ext.
Do.	Lomero-Poyatos	Au,Ag,Cu,Pb,Zn	Cambridge Mineral Resources plc.	Expl.	Cont.
Do.	Lugo	Au	Rio Narcea Gold Mines Ltd.	Expl.	New
Do.	Salamon	Au	Ormonde Mining plc.	Expl.	Cont.
Sweden	Ahmavuoma	Cu,Au,Co	Tertiary Minerals Ltd.	Expl.	New
Do.	Bottenbacken	Cu,Pd,Au	Poplar Resources Ltd.	Expl.	Cont.
Do.	Bottenbacken	Cu,Pd,Au	South Atlantic Resources Ltd.	Expl.	Cont.
Do.	Garpenberg/Lappberget	Zn,Pb,Ag	Boliden AB	Expl.	Cont.
Do.	Grundtrask	Au	Beowulf Gold plc.	Expl.	New
Do.	Knaften	Au	Lapland Goldminers AB	Expl.	New
Do.	Lappvattnet-Mjovattnet area	Ni,Cu	South Atlantic Resources Ltd.	Expl.	New
Do.	Norrbotten/10 targets	Cu,Au	do.	Expl.	Cont.
Do.	Norrbotten/Sierkavare	Cu,Au	do.	Expl.	Cont.
Do.	Notrask	Ni,Cu	Tertiary Minerals Ltd.	Expl.	New
Do.	Rakkurijarvi/Discovery	Cu,Au	South Atlantic Ventures Ltd.	Expl.	New
Do.	Skellefte	Au,Ag,Cu,Pb,Zn	North Atlantic Natural resources AB	Expl.	Cont.
Do.	Storliden	Zn,Cu,Au,Ag	South Atlantic Resources Ltd.	Devel.	Ext.
Ukraine	Muzievo-Beregove-Kvasove	Au	Argosy Minerals Inc.	Expl.	New
Do.	Novograd Volyn	Diamond	North Star Diamonds Inc.	Expl.	New
Do.	Saulyak	Au	Vulcan Resources Ltd.	Expl.	Cont.
Do.	Zubkovich	Diamond	North Star Diamonds Inc.	Expl.	Cont.
Do.	Unnamed	Diamond	do.	Expl.	Cont.
United Kingdom	Unnamed	PGM	British Geological Survey	Expl.	New
Uzbekistan	Amantaytau	Au	Oxus Mining Plc.	Devel.	Ext.

¹Ag, silver; Au, gold; Co, cobalt; Cu, copper; Li, lithium; Mo, molybdenum; Nb, niobium; Ni, nickel; Pb, lead; Pd, palladium;

PGM, platinum-group metals; Pt, platinum; Sn, tin; Ta, tantalum; Zn, zinc.

²Devel., developing; Expl., exploration; Feas., feasible; Prod., producing.

³Cont., continuing; Ext., extended.

TABLE 4
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2003 ^{1,2}

(Thousand metric tons unless otherwise specified)

Region and/or country	Metals															
	Aluminum								Antimony, mine output		Chromite		Copper			
	Alumina		Bauxite		Metal								Mine		Refined, primary ³	
					Primary ³		Secondary									
	Quantity	Percent change ⁴	Quantity	Percent change ⁴	Quantity	Percent change ⁴	Quantity	Percent change ⁴	Quantity (metric tons)	Percent change ⁴	Gross weight	Percent change ⁴	Metal content	Percent change ⁴	Quantity	Percent change ⁴
Central Eurasia:																
Armenia	--	--	--	--	--	--	--	--	--	--	--	--	18	8.2%	--	--
Azerbaijan	180	97.8%	--	--	19	3.2%	--	--	--	--	--	--	--	--	--	--
Belarus	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Estonia	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Georgia	--	--	--	--	--	--	--	--	--	--	--	--	12	--	--	--
Kazakhstan	1,419	2.4%	4,737	8.2%	--	--	--	--	--	--	2,928	23.6%	485	-1.0%	432	-4.5%
Kyrgyzstan	--	--	--	--	--	--	--	--	40	--	--	--	--	--	--	--
Latvia	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lithuania	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Moldova	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Russia	3,230	3.2%	5,442	18.7%	3,478	3.9%	--	--	NA	NA	116	56.7%	675	-2.9%	670	--
Tajikistan	--	--	--	--	308	-3.7%	--	--	1,800	--	--	--	--	--	--	--
Turkmenistan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ukraine	1,434	6.1%	--	--	114	1.1%	130	--	--	--	--	--	--	--	--	--
Uzbekistan	--	--	--	--	--	--	3	--	--	--	--	--	80	--	75	--
Total	6,260	5.1%	10,200	13.6%	3,920	3.7%	133	--	1,840	-5.6%	3,040	24.6%	1,270	-1.7%	1,180	-1.7%
Share of world total	11.2%	2.2%	6.9%	9.7%	13.8%	-4.2%	2.7%	0.7%	1.6%	-5.1%	19.7%	12.4%	9.2%	-2.0%	8.5%	-0.3%
Central Europe:																
Albania	--	--	5	--	--	--	--	--	--	--	220	2.3%	1	--	--	--
Bosnia and Herzegovina	--	--	115	1.8%	111	7.8%	--	--	--	--	--	--	--	--	--	--
Bulgaria	--	--	--	--	--	--	2	--	--	--	--	--	116	3.6%	16	-60.7%
Croatia	--	--	25	-5.7%	--	--	--	--	--	--	--	--	--	--	--	--
Czech Republic	--	--	--	--	--	--	20	--	--	--	--	--	--	--	--	--
Hungary	250	-15.0%	666	-7.5%	35	--	50	-33.3%	--	--	--	--	--	--	--	--
Macedonia	--	--	--	--	--	--	4	--	--	--	--	--	6	--	--	--
Poland	--	--	--	--	45	-7.6%	10	-2.1%	--	--	--	--	570	0.4%	530	4.1%
Romania	333	-7.8%	--	--	196	4.6%	(5)	-100.0%	--	--	--	--	21	12.4%	17	45.6%
Serbia and Montenegro	225	--	590	-3.6%	112	0.3%	--	--	--	--	--	--	26	-28.5%	9	-68.0%
Slovakia	132	18.3%	--	--	165	12.5%	--	--	--	--	--	--	--	--	6	--
Slovenia	--	--	--	--	110	25.3%	--	--	--	--	--	--	--	--	--	--
Total	940	-6.4%	1,400	-5.1%	774	6.9%	86	--	--	--	220	2.3%	740	-0.2%	577	-3.2%
Share of world total	1.7%	-8.9%	0.9%	-8.4%	2.7%	-1.2%	1.7%	-21.5%	--	--	1.4%	-7.6%	5.4%	-0.5%	4.2%	-1.8%

See footnotes at end of table.

TABLE 4--Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2003 ^{1,2}

(Thousand metric tons unless otherwise specified)

Region and/or country	Metals															
	Aluminum								Antimony, mine output		Chromite		Copper			
	Alumina		Bauxite		Metal								Mine		Refined, primary ³	
					Primary ³		Secondary									
	Quantity	Percent change ⁴	Quantity	Percent change ⁴	Quantity	Percent change ⁴	Quantity	Percent change ⁴	Quantity (metric tons)	Percent change ⁴	Gross weight	Percent change ⁴	Metal content	Percent change ⁴	Quantity	Percent change ⁴
Western Europe:																
European Free Trade Association:																
Iceland	--	--	--	--	266	0.8%	--	--	--	--	--	--	--	--	--	--
Norway	--	--	--	--	1,192	8.8%	257	-5.2%	--	--	--	--	--	--	36	17.7%
Switzerland	--	--	--	--	40	--	6	--	--	--	--	--	--	--	--	--
Total	--	--	--	--	1,500	7.1%	263	-5.1%	--	--	--	--	--	--	36	17.7%
European Union (EU):																
Austria	--	--	--	--	--	--	150	--	--	--	--	--	--	--	--	--
Belgium	--	--	--	--	--	--	(3)	--	--	--	--	--	--	--	425	--
Denmark-Greenland	--	--	--	--	--	--	18	--	--	--	--	--	--	--	--	--
Finland	--	--	--	--	--	--	33	10.0%	--	--	570	0.7%	15	--	136	7.0%
France	500	--	168	-1.2%	445	-3.9%	240	-8.4%	500	--	--	--	--	--	--	-100.0%
Germany	1	--	--	--	661	1.2%	680	2.1%	--	--	--	--	--	--	243	-26.7%
Greece	750	0.1%	2,418	-2.1%	165	-0.2%	2	0.0%	--	--	--	--	--	--	--	--
Ireland	1,200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Italy	925	--	300	--	191	0.5%	594	0.7%	--	--	--	--	--	--	27	-17.6%
Luxembourg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Malta	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Netherlands	--	--	--	--	285	0.4%	120	--	--	--	--	--	--	--	--	--
Portugal	--	--	--	--	--	--	18	12.5%	--	--	--	--	78	0.5%	--	--
Spain	1,000	--	--	--	389	2.4%	245	1.0%	--	--	--	--	--	-100.0%	280	3.1%
Sweden	--	--	--	--	101	0.6%	30	7.1%	--	--	--	--	83	15.1%	189	-5.0%
United Kingdom	--	-100.0%	--	--	343	-0.5%	205	0.2%	--	--	--	--	--	--	--	--
Total	4,380	-3.8%	2,890	-1.8%	2,580	--	2,340	0.2%	500	--	570	0.7%	176	6.8%	1,300	-6.2%
Total Western Europe	4,380	-3.8%	2,890	-1.8%	4,080	2.5%	2,600	-0.4%	500	--	570	0.7%	176	6.8%	1,340	-5.6%
Share of world total	7.8%	-6.4%	1.9%	-5.2%	14.3%	-5.3%	52.3%	0.3%	0.4%	0.6%	3.7%	-9.1%	1.3%	6.4%	9.6%	-4.3%
Total Europe and Central Eurasia	11,600	0.6%	14,500	8.1%	8,770	3.4%	2,820	-1.2%	2,340	-4.5%	3,830	18.9%	2,190	-0.5%	3,090	-3.7%
Share of world total	20.7%	-2.2%	9.7%	4.4%	30.8%	-4.4%	56.7%	-0.5%	2.1%	-3.9%	24.8%	7.3%	15.9%	-0.9%	22.3%	-2.3%
United States ⁶	4,830	(7)	NA	NA	2,700	-0.1%	--	--	--	--	--	--	1,120	-2.3%	1,250	-13.1%
Share of world total	8.7%	8.4%	NA	NA	9.5%	-7.7%	--	--	--	--	--	--	8.1%	-2.6%	9.0%	-11.9%
World total ⁶	55,900	2.8%	148,000	3.5%	28,500	8.2%	4,970	-0.7%	112,000	-0.6%	15,500	10.8%	13,800	0.3%	13,900	-1.4%

See footnotes at end of table.

TABLE 4--Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2003 ^{1,2}

(Thousand metric tons unless otherwise specified)

Region and/or country	Metals--Continued															
	Copper, refined, secondary		Gold, mine output		Iron and steel						Lead					
					Iron ore, mine output		Pig iron and direct-reduced iron		Steel, crude		Mine		Refined			
													Primary ³		Secondary	
	Quantity	Percent change ⁴	Quantity (kilograms)	Percent change ⁴	Metal content	Percent change ⁴	Quantity	Percent change ⁴	Quantity	Percent change ⁴	Metal content	Percent change ⁴	Quantity	Percent change ⁴	Quantity	Percent change ⁴
Central Eurasia:																
Armenia	--	--	1,800	-43.8%	--	--	--	--	--	--	--	--	--	--	--	--
Azerbaijan	--	--	--	--	2	-162.0%	--	--	2	192.2%	--	--	--	--	--	--
Belarus	--	--	--	--	--	--	--	--	1,694	5.4%	--	--	--	--	--	--
Estonia	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Georgia	--	--	2,000	--	--	--	--	--	--	--	(5)	--	--	--	--	--
Kazakhstan	--	--	30,000	33.9%	9,800	12.6%	4,140	1.2%	5,067	4.1%	40	--	141	-13.0%	--	--
Kyrgyzstan	--	--	22,476	32.2%	--	--	--	--	--	--	--	--	--	--	--	--
Latvia	--	--	--	--	--	--	--	--	546	7.6%	--	--	--	--	--	--
Lithuania	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Moldova	--	--	--	--	--	--	--	--	875	70.2%	--	--	--	--	--	--
Russia	165	-17.5%	170,068	1.0%	53,000	8.2%	51,268	4.7%	62,708	4.9%	15	7.4%	61	0.2%	--	--
Tajikistan	--	--	2,700	--	--	--	--	--	--	--	1	--	--	--	--	--
Turkmenistan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ukraine	--	--	--	--	34,300	6.2%	29,570	7.3%	36,900	6.8%	--	--	--	--	12	--
Uzbekistan	--	--	95,000	--	--	--	--	--	472	4.9%	--	--	--	--	--	--
Total	165	-17.5%	324,000	6.0%	97,100	7.9%	85,000	5.4%	108,000	5.9%	55	1.8%	201	-9.4%	12	--
Share of world total	11.7%	-22.6%	12.6%	5.7%	15.1%	1.6%	11.7%	-41.4%	11.2%	-1.1%	1.7%	-6.8%	5.8%	-8.1%	0.4%	-3.3%
Central Europe:																
Albania	--	--	--	--	--	--	--	--	95	-1.7%	--	--	--	--	--	--
Bosnia and Herzegovina	--	--	--	--	81	15.7%	60	--	70	--	(5)	66.7%	(5)	66.7%	--	--
Bulgaria	--	--	2,142	-18.0%	127	21.0%	1,100	2.6%	1,900	2.2%	31	29.2%	69	4.5%	--	--
Croatia	--	--	--	--	--	--	--	--	43	28.1%	--	--	--	--	--	--
Czech Republic	18	--	1,000	--	--	--	5,200	7.4%	6,800	4.4%	--	--	--	--	20	-20.0%
Hungary	10	--	--	--	--	--	1,300	-2.5%	2,100	-1.9%	--	--	--	--	--	--
Macedonia	--	--	500	--	1	--	--	--	291	19.1%	3	-82.7%	6	--	(5)	--
Poland	--	--	300	1.4%	--	--	5,632	6.3%	9,107	8.8%	119	-1.2%	28	--	40	--
Romania	2	--	--	-100.0%	79	-11.2%	4,101	3.1%	5,690	3.6%	18	19.6%	23	--	5	--
Serbia and Montenegro	5	-50.0%	600	-33.3%	--	--	730	50.5%	722	21.1%	1	-87.8%	--	--	--	--
Slovakia	--	--	50	-5.7%	200	14.3%	3,500	-0.9%	4,549	6.4%	--	--	--	--	--	--
Slovenia	--	--	--	--	--	--	--	--	543	12.9%	--	--	--	--	15	--
Total	35	-11.5%	4,590	-33.1%	488	10.9%	21,600	5.0%	31,900	5.8%	172	-7.5%	127	-5.4%	80	-5.2%
Share of world total	2.4%	-17.0%	0.2%	-33.3%	0.1%	4.5%	3.0%	-11.7%	3.3%	-1.2%	5.3%	-15.4%	3.6%	-4.0%	2.5%	-8.3%

See footnotes at end of table.

TABLE 4--Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2003 ^{1,2}

(Thousand metric tons unless otherwise specified)

Region and/or country	Metals--Continued															
	Copper, refined, secondary		Gold, mine output		Iron and steel						Lead					
					Iron ore, mine output		Pig iron and direct-reduced iron		Steel, crude		Mine		Refined			
													Primary ³		Secondary	
	Quantity	Percent change ⁴	Quantity (kilograms)	Percent change ⁴	Metal content	Percent change ⁴	Quantity	Percent change ⁴	Quantity	Percent change ⁴	Metal content	Percent change ⁴	Quantity	Percent change ⁴	Quantity	Percent change ⁴
Western Europe:																
European Free Trade Association:																
Iceland	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Norway	--	--	--	--	350	--	90	--	698	0.6%	--	--	--	--	--	--
Switzerland	--	--	--	--	--	--	100	--	1,100	-8.3%	--	--	--	--	8	--
Total	--	--	--	--	350	--	190	--	1,800	-5.1%	--	--	--	--	8	--
European Union (EU):																
Austria	65	0.2%	25	-50.0%	570	-5.0%	4,600	-1.5%	6,261	0.9%	--	--	--	--	20	--
Belgium	--	--	--	--	--	--	8,000	-0.7%	11,500	(7)	--	--	80	14.3%	20	--
Denmark-Greenland	--	--	--	--	--	--	--	--	--	-100.0%	--	--	--	--	--	--
Finland	--	--	5,600	20.0%	--	--	2,800	-1.0%	4,766	19.0%	--	--	--	--	--	--
France	--	--	1,470	-14.7%	--	--	12,756	-3.5%	19,803	-3.5%	--	--	2	-98.2%	96	-13.9%
Germany	355	34.0%	--	--	--	--	29,461	0.1%	44,809	-0.5%	--	--	133	-5.4%	221	-7.3%
Greece	--	--	--	--	22	-3.0%	--	--	1,800	-1.9%	29	--	--	--	--	--
Ireland	--	--	--	--	--	--	--	--	--	--	50	55.0%	--	--	7	-45.0%
Italy	--	--	500	-16.7%	--	--	9,800	0.7%	26,000	0.3%	1	--	16	-61.0%	198	30.3%
Luxembourg	--	--	--	--	--	--	--	--	2,700	-1.3%	--	--	--	--	--	--
Malta	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Netherlands	--	--	--	--	--	--	5,000	--	6,000	-2.3%	--	--	--	--	22	--
Portugal	--	--	--	--	10	--	100	--	722	-19.2%	--	--	--	--	4	--
Spain	20	-45.5%	5,362	4.0%	--	--	4,000	0.6%	16,129	-1.4%	2	-71.4%	--	--	99	-14.6%
Sweden	25	--	4,300	-4.4%	14,000	7.7%	3,700	-0.1%	5,707	-0.8%	50	17.2%	24	-19.3%	52	31.0%
United Kingdom	--	--	--	--	(5)	--	10,200	18.9%	12,949	10.5%	1	--	182	-12.5%	167	(7)
Total	465	18.8%	17,300	3.3%	14,600	7.1%	90,400	1.3%	159,000	0.1%	133	18.3%	437	-23.8%	909	0.6%
Total Western Europe	465	18.8%	17,300	3.3%	15,000	6.9%	90,600	1.3%	161,000	(7)	133	18.3%	437	-23.8%	917	0.6%
Share of world total	32.9%	11.4%	0.7%	3.0%	2.3%	0.7%	13.2%	-9.6%	16.6%	-6.6%	4.1%	8.2%	12.5%	-22.7%	28.4%	-2.7%
Total Europe and Central Eurasia	665	5.4%	346,000	5.0%	113,000	7.8%	197,000	3.4%	301,000	2.7%	360	2.2%	765	-17.7%	1,010	0.1%
Share of world total	47.0%	-1.2%	13.4%	4.7%	17.5%	1.5%	35.3%	-6.9%	31.1%	-4.1%	11.0%	-6.5%	21.9%	-16.5%	31.2%	(7)
United States ⁶	53	-23.8%	277,000	-7.1%	29,300	-9.9%	40,800	0.4%	93,700	2.3%	460	2.1%	245	-6.5%	1,150	2.8%
Share of world total	3.8%	-28.5%	10.7%	-7.4%	4.5%	-15.1%	6.4%	-16.9%	9.7%	-4.4%	14.1%	-6.6%	7.0%	-5.1%	35.5%	-0.6%
World total ⁶	1,420	6.6%	2,580,000	0.3%	644,000	6.2%	728,000	11.5%	968,000	7.0%	3,260	9.3%	3,480	-1.5%	3,230	3.4%

See footnotes at end of table.

TABLE 4--Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2003 ^{1,2}

(Thousand metric tons unless otherwise specified)

Region and/or country	Metals--Continued															
	Manganese ore, mine output		Mercury, mine output, metal content		Nickel				Platinum-group metals, refined, primary and secondary				Silver, mine output, metal content		Tin, mine output, metal content	
					Mine		Refined		Palladium		Platinum					
					Metal content	Percent change ⁴	Quantity (metric tons)	Percent change ⁴	Metal content	Percent change ⁴	Quantity	Percent change ⁴	Quantity (kilograms)	Percent change ⁴	Quantity (kilograms)	Percent change ⁴
	Central Eurasia:															
Armenia	--	--	--	--	--	--	--	--	--	--	--	--	4	-27.3%	--	--
Azerbaijan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Belarus	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Estonia	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Georgia	--	-100.0%	--	--	--	--	--	--	--	--	--	--	33	--	--	--
Kazakhstan	1,337	32.2%	--	--	--	--	--	--	--	--	--	--	805	-9.9%	--	--
Kyrgyzstan	--	--	370	-12.9%	--	--	--	--	--	--	--	--	--	--	350	--
Latvia	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lithuania	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Moldova	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Russia	23	--	50	--	315	1.6%	239	9.1%	75,000	2.7%	36,000	2.9%	700	75.0%	2,000	53.8%
Tajikistan	--	--	30	50.0%	--	--	--	--	--	--	--	--	6	--	--	--
Turkmenistan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ukraine	860	2.4%	--	--	--	-100.0%	--	--	--	--	--	--	--	--	--	--
Uzbekistan	--	--	--	--	--	--	--	--	--	--	--	--	80	--	--	--
Total	2,220	16.6%	450	-9.1%	315	1.0%	239	9.1%	75,000	2.7%	36,000	2.9%	1,630	14.9%	2,350	46.9%
Share of world total	24.4%	5.4%	38.6%	6.9%	22.9%	-1.1%	27.7%	-1.9%	41.5%	-0.6%	14.2%	-3.0%	7.9%	15.4%	0.9%	34.9%
Central Europe:																
Albania	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bosnia and Herzegovina	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bulgaria	(5)	66.7%	--	--	--	--	--	--	--	--	--	--	50	-16.7%	--	--
Croatia	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Czech Republic	--	--	--	--	--	--	--	--	--	--	--	--	25	--	--	--
Hungary	11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Macedonia	--	--	--	--	6	9.3%	--	--	--	--	--	--	10	-16.7%	--	--
Poland	--	--	--	--	--	--	--	--	10	--	20	--	1,237	1.2%	--	--
Romania	15	25.0%	--	--	--	--	--	--	--	--	--	--	18	20.0%	--	--
Serbia and Montenegro	--	--	--	--	--	--	--	--	8	--	1	--	1	-85.4%	--	--
Slovakia	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Slovenia	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	27	10.9%	--	--	6	9.3%	--	--	18	--	21	--	1,340	0.0%	--	--
Share of world total	0.3%	0.3%	--	--	0.4%	7.1%	--	--	(7)	--	(7)	--	6.5%	0.5%	--	--

See footnotes at end of table.

TABLE 4--Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2003 ^{1,2}

(Thousand metric tons unless otherwise specified)

Region and/or country	Metals--Continued															
	Manganese ore, mine output		Mercury, mine output, metal content		Nickel				Platinum-group metals, refined, primary and secondary				Silver, mine output, metal content		Tin, mine output, metal content	
									Palladium		Platinum					
			Metal content	Percent change ⁴	Quantity (metric tons)	Percent change ⁴	Metal content	Percent change ⁴	Quantity	Percent change ⁴	Quantity (kilograms)	Percent change ⁴	Quantity (kilograms)	Percent change ⁴	Quantity (metric tons)	Percent change ⁴
Western Europe:																
European Free Trade Association:																
Iceland	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Norway	--	--	--	--	--	--	77	12.7%	--	--	1,000	--	--	--	--	--
Switzerland	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	--	--	--	--	--	--	77	12.7%	--	--	1,000	--	--	--	--	--
European Union (EU):																
Austria	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Belgium	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Denmark-Greenland	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Finland	--	--	65	27.5%	3	8.0%	52	6.4%	--	--	505	-0.6%	34	15.6%	--	--
France	--	--	--	--	--	--	11	--	--	--	--	--	1	--	--	--
Germany	--	--	--	--	--	--	--	--	--	--	50,000	--	--	--	--	--
Greece	(5)	--	--	--	21	-5.6%	--	--	--	--	--	--	79	5.9%	--	--
Ireland	--	--	--	--	--	--	--	--	--	--	--	--	20	104.0%	--	--
Italy	1	--	--	--	--	--	--	--	--	--	--	--	3	-14.3%	--	--
Luxembourg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Malta	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Netherlands	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Portugal	--	--	--	--	--	--	--	--	--	--	--	--	21	8.2%	354	-38.3%
Spain	--	--	--	--	--	--	--	--	--	--	--	--	50	-16.7%	500	-29.4%
Sweden	--	--	--	--	--	--	(5)	--	--	--	--	--	307	2.5%	--	--
United Kingdom	--	--	--	--	--	--	27	-20.7%	--	--	--	--	--	--	--	--
Total	1	--	65	27.5%	24	-4.2%	90	-4.4%	--	--	50,500	(7)	715	2.6%	854	-33.4%
Total Western Europe	1	--	65	27.5%	24	--	167	2.8%	--	--	51,500	(7)	715	2.6%	854	-33.4%
Share of world total	(7)	--	5.6%	49.9%	1.8%	-12.1%	19.4%	-7.6%	--	--	20.4%	-5.7%	3.5%	3.0%	0.3%	-38.8%
Total Europe and Central Eurasia	2,250	16.5%	515	-5.7%	345	0.2%	406	6.4%	75,018	2.7%	87,500	1.2%	3,680	6.6%	3,200	11.2%
Share of world total	24.7%	5.4%	44.1%	10.9%	25.1%	-1.8%	47.1%	-4.3%	41.5%	-0.6%	34.6%	-4.6%	17.9%	7.1%	1.2%	2.1%
United States ⁶	--	--	NA	NA	--	--	--	--	14,000	-5.4%	4,170	-5.0%	1,240	-8.5%	--	--
Share of world total	--	--	NA	NA	--	--	--	--	7.8%	-8.5%	1.6%	-10.4%	6.0%	-8.0%	--	--
World total ⁶	9,110	10.6%	1,170	-15.0%	1,380	2.1%	863	11.2%	181,000	3.4%	253,000	6.0%	20,600	-0.5%	260,000	8.9%

See footnotes at end of table.

TABLE 4--Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2003 ^{1,2}

(Thousand metric tons unless otherwise specified)

Region and/or country	Metals--Continued													
	Tin, metal, primary ³		Titanium, metric tons				Tungsten, mine output, metal content		Zinc, metric tons				Industrial minerals	
									Mine, metal content		Metal, primary and secondary		Ammonia, N content	
	Quantity (metric tons)	Percent change ⁴	TiO ₂ content	Percent change ⁴	Metal content	Percent change ⁴	Quantity (metric tons)	Percent change ⁴	Quantity	Percent change ⁴	Quantity	Percent change ⁴	Quantity	Percent change ⁴
Central Eurasia:														
Armenia	--	--	--	--	--	--	--	--	800	2.3%	--	--	--	--
Azerbaijan	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Belarus	--	--	--	--	--	--	--	--	--	--	--	--	726	-9.1%
Estonia	--	--	--	--	--	--	--	--	--	--	--	--	81	108.8%
Georgia	--	--	--	--	--	--	--	--	400	--	--	--	125	38.9%
Kazakhstan	--	--	--	--	11,000	-21.4%	--	--	395,000	1.3%	294,965	3.0%	--	--
Kyrgyzstan	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Latvia	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lithuania	--	--	--	--	--	--	--	--	--	--	--	--	462	-1.4%
Moldova	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Russia	3,650	-20.9%	--	--	23,000	--	3,900	14.7%	125,000	-3.8%	258,000	5.7%	9,100	5.8%
Tajikistan	--	--	--	--	--	--	--	--	--	--	--	--	20	33.3%
Turkmenistan	--	--	--	--	--	--	--	--	--	--	--	--	85	--
Ukraine	--	--	281,400	--	6,934	11.8%	--	--	--	--	--	--	3,900	5.4%
Uzbekistan	--	--	--	--	--	--	--	--	--	--	30,000	--	815	10.1%
Total	3,650	-20.9%	281,400	--	40,900	-5.2%	3,900	14.7%	521,000	0.0%	583,000	4.0%	15,300	5.3%
Share of world total	1.4%	-21.3%	6.3%	-5.4%	90.9%	-1.5%	6.7%	11.9%	5.5%	-8.4%	5.9%	1.6%	14.0%	101.9%
Central Europe:														
Albania	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bosnia and Herzegovina	--	--	--	--	--	--	--	--	300	--	--	--	1	--
Bulgaria	10	--	--	--	--	--	--	--	31,000	20.2%	86,800	4.6%	321	-2.1%
Croatia	--	--	--	--	--	--	--	--	--	--	--	--	236	-5.2%
Czech Republic	--	--	--	--	--	--	--	--	--	--	250	--	235	9.3%
Hungary	--	--	--	--	--	--	--	--	--	--	--	--	232	-2.5%
Macedonia	--	--	--	--	--	--	--	--	4,000	-60.0%	15,100	-60.3%	--	--
Poland	--	--	--	--	--	--	--	--	172,000	0.5%	152,300	0.1%	1,912	40.4%
Romania	--	--	--	--	--	--	--	--	23,464	10.4%	52,000	0.8%	1,180	26.9%
Serbia and Montenegro	--	--	--	--	--	--	--	--	14,000	50.5%	90	-93.9%	62	-46.6%
Slovakia	--	--	--	--	--	--	--	--	--	--	--	--	230	-29.4%
Slovenia	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	10	--	--	--	--	--	--	--	245,000	2.9%	307,000	-6.1%	4,410	17.1%
Share of world total	(7)	--	--	--	--	--	--	--	2.6%	-5.7%	3.1%	-8.3%	4.0%	124.5%

See footnotes at end of table.

TABLE 4--Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2003 ^{1,2}

(Thousand metric tons unless otherwise specified)

Region and/or country	Metals--Continued													
	Tin, metal, primary ³		Titanium, metric tons				Tungsten, mine output, metal content		Zinc, metric tons				Industrial minerals	
									Mine, metal content		Metal, primary and secondary		Ammonia, N content	
	Quantity (metric tons)	Percent change ⁴	TiO ₂ content	Percent change ⁴	Metal content	Percent change ⁴	Quantity (metric tons)	Percent change ⁴	Quantity	Percent change ⁴	Quantity	Percent change ⁴	Quantity	Percent change ⁴
Western Europe:														
European Free Trade Association:														
Iceland	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Norway	--	--	345,000	1.5%	--	--	--	--	--	--	135,500	-1.3%	354	7.3%
Switzerland	--	--	--	--	--	--	--	--	--	--	--	--	32	-3.0%
Total	--	--	345,000	1.5%	--	--	--	--	--	--	135,500	-1.3%	386	6.3%
European Union (EU):														
Austria	--	--	--	--	--	--	1,400	--	--	--	--	--	(5)	--
Belgium	--	--	--	--	--	--	--	--	--	--	265,000	1.9%	850	1.0%
Denmark-Greenland	--	--	--	--	--	--	--	--	--	--	--	--	2	--
Finland	--	--	--	--	--	--	--	--	38,900	-36.8%	265,900	13.0%	60	-31.0%
France	--	--	--	--	--	--	500	--	--	--	268,408	-20.8%	1,153	-1.6%
Germany	--	--	--	--	--	--	--	--	--	--	388,112	2.5%	2,801	6.8%
Greece	--	--	--	--	--	--	--	--	30,400	-7.9%	--	--	123	86.5%
Ireland	--	--	--	--	--	--	--	--	419,014	65.8%	--	--	400	--
Italy	--	--	--	--	--	--	--	--	--	--	123,100	-30.0%	400	2.3%
Luxembourg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Malta	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Netherlands	--	--	--	--	--	--	--	--	--	--	203,400	--	1,750	-14.8%
Portugal	--	--	--	--	--	--	715	3.2%	--	--	3,000	--	245	28.6%
Spain	--	--	--	--	--	--	--	--	44,660	-36.1%	479,700	4.3%	432	4.1%
Sweden	--	--	--	--	--	--	--	--	186,900	25.8%	--	--	--	--
United Kingdom	--	--	--	--	--	--	--	--	--	--	16,600	-83.3%	1,044	24.7%
Total	218	--	--	--	--	--	2,620	0.8%	720,000	27.2%	2,010,000	-6.6%	9,260	2.0%
Total Western Europe	218	--	345,000	--	--	--	2,620	0.8%	720,000	27.2%	2,150,000	-6.2%	9,650	2.2%
Share of world total	(7)	--	7.8%	-4.0%	--	--	4.5%	-1.6%	7.7%	16.5%	21.8%	-8.4%	8.8%	95.8%
Total Europe and Central Eurasia	3,880	--	626,000	0.8%	40,900	-5.2%	6,520	8.7%	1,490,000	12.2%	3,040,000	-4.4%	29,400	5.9%
Share of world total	(7)	--	14.1%	-4.7%	90.9%	-1.5%	11.2%	6.1%	15.8%	2.7%	30.8%	-6.7%	26.9%	102.9%
United States ⁶	--	--	273,000	--	--	--	--	--	738,000	-5.4%	303,000	2.8%	8,770	-13.5%
Share of world total	--	--	6.1%	18.2%	--	--	--	--	7.9%	-13.3%	3.1%	0.4%	8.0%	65.7%
World total ⁶	267,000	0.5%	4,450,000	5.8%	45,100	-3.8%	57,900	2.5%	9,390,000	9.2%	9,870,000	2.4%	109,000	-47.8%

See footnotes at end of table.

TABLE 4--Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2003 ^{1,2}

(Thousand metric tons unless otherwise specified)

Region and/or country	Industrial minerals--Continued										Mineral fuels					
	Cement, hydraulic		Diamond, natural, gemstones and industrial		Phosphate rock, P ₂ O ₅ content		Potash, K ₂ O equivalent		Salt		Coal					
											Anthracite		Bituminous		Lignite	
	Quantity	Percent change ⁴	Quantity	Percent change ⁴	Quantity	Percent change ⁴	Quantity	Percent change ⁴	Quantity	Percent change ⁴	Quantity	Percent change ⁴	Quantity	Percent change ⁴	Quantity	Percent change ⁴
Central Eurasia:																
Armenia	384	8.2%	--	--	--	--	--	--	32	5.3%	--	--	--	--	--	--
Azerbaijan	1,013	19.4%	--	--	--	--	--	--	8	43.0%	--	--	--	--	--	--
Belarus	2,472	13.9%	--	--	--	--	4,230	11.3%	300	-1.3%	--	--	--	--	--	--
Estonia	506	8.6%	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Georgia	425	22.5%	--	--	--	--	--	--	--	--	--	--	8	--	--	--
Kazakhstan	2,570	20.7%	--	--	35	-12.4%	--	--	--	--	--	--	82,835	21.4%	2,882	21.4%
Kyrgyzstan	770	44.5%	--	--	--	--	--	--	1	--	--	--	100	-17.5%	311	-17.3%
Latvia	295	13.4%	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lithuania	597	-1.5%	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Moldova	300	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Russia	41,000	8.8%	33,000	13.8%	4,420	1.8%	4,740	7.7%	2,800	--	15,900	8.2%	179,800	9.3%	79,000	6.5%
Tajikistan	120	20.0%	--	--	--	--	--	--	--	--	--	--	36	21.3%	--	--
Turkmenistan	450	--	--	--	--	--	--	--	215	--	--	--	--	--	--	--
Ukraine	9,000	26.0%	--	--	--	--	60	--	2,300	--	14,427	-3.8%	63,866	-3.8%	962	-3.8%
Uzbekistan	4,000	--	--	--	102	1.0%	--	--	--	--	--	--	50	-30.1%	1,859	-30.2%
Total	63,900	11.3%	33,000	13.8%	4,560	1.7%	9,030	9.3%	5,660	(7)	30,300	2.1%	327,000	9.1%	85,000	5.5%
Share of world total	3.2%	1.6%	42.4%	1.9%	10.7%	1.6%	31.8%	2.7%	2.6%	-3.4%	10.2%	12.7%	8.1%	-1.9%	9.4%	5.2%
Central Europe and Balkans:																
Albania	--	--	--	--	--	--	--	--	23	--	--	--	--	--	20,000	-1.5%
Bosnia and Herzegovina	500	--	--	--	--	--	--	--	50	--	--	--	--	--	2,000	--
Bulgaria	2,100	-1.7%	--	--	--	--	--	--	1,882	4.6%	9	-30.8%	44	-59.6%	27,641	4.6%
Croatia	3,654	8.2%	--	--	--	--	--	--	31	-15.2%	--	--	--	--	--	--
Czech Republic	3,465	7.7%	--	--	--	--	--	--	--	--	--	--	13,382	-5.1%	50,390	2.1%
Hungary	3,500	-0.3%	--	--	--	--	--	--	--	--	--	--	567	-14.1%	12,602	3.8%
Macedonia	768	28.0%	--	--	--	--	--	--	--	--	--	--	--	--	8,360	-3.2%
Poland	11,300	3.2%	--	--	--	--	--	--	4,660	31.0%	--	--	102,873	-0.6%	60,919	4.7%
Romania	5,988	5.4%	--	--	--	--	--	--	2,415	7.0%	--	--	8	-38.5%	33,043	8.7%
Serbia and Montenegro	2,075	-13.4%	--	--	--	--	--	--	65	53.9%	--	--	40	-42.9%	34,950	4.6%
Slovakia	3,147	0.2%	--	--	--	--	--	--	95	-2.5%	--	--	--	--	3,077	-9.5%
Slovenia	1,300	4.0%	--	--	--	--	--	--	125	-2.5%	--	--	--	--	4,830	3.1%
Total	37,800	2.8%	--	--	--	--	--	--	9,350	16.9%	9	-30.8%	117,000	-1.3%	258,000	3.6%
Share of world total	1.9%	-6.1%	--	--	--	--	--	--	4.3%	13.0%	(7)	(7)	2.9%	-11.3%	28.4%	3.3%

See footnotes at end of table.

TABLE 4--Continued
EUROPE AND CENTRAL EURASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2003 ^{1,2}

(Thousand metric tons unless otherwise specified)

Region and/or country	Industrial minerals--Continued										Mineral fuels					
	Cement, hydraulic		Diamond, natural, gemstones and industrial		Phosphate rock, P ₂ O ₅ content		Potash, K ₂ O equivalent		Salt		Coal					
											Anthracite		Bituminous		Lignite	
	Quantity	Percent change ⁴	Quantity	Percent change ⁴	Quantity	Percent change ⁴	Quantity	Percent change ⁴	Quantity	Percent change ⁴	Quantity	Percent change ⁴	Quantity	Percent change ⁴	Quantity	Percent change ⁴
Western Europe:																
European Free Trade Association:																
Iceland	135	3.8%	--	--	--	--	--	--	5	--	--	--	--	--	--	--
Norway	1,860	0.5%	--	--	--	--	--	--	--	--	--	--	300	-3.2%	--	--
Switzerland	3,600	--	--	--	--	--	--	--	300	--	--	--	--	--	--	--
Total	5,600	0.3%	--	--	--	--	--	--	305	--	--	--	300	-3.2%	--	--
European Union (EU):																
Austria	3,800	--	--	--	--	--	--	--	1	--	--	--	--	--	1,152	-18.5%
Belgium	8,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Denmark-Greenland	2,030	1.0%	--	--	--	--	--	--	605	0.8%	--	--	--	--	--	--
Finland	1,360	13.5%	--	--	282	0.7%	--	--	--	--	--	--	--	--	--	--
France	20,000	--	--	--	--	--	--	-100.0%	6,673	-2.0%	142	16.4%	1,588	16.7%	9	-93.9%
Germany	21,513	-7.7%	--	--	--	--	3,563	2.6%	16,300	4.3%	2,424	-2.2%	23,359	-2.2%	179,085	-1.5%
Greece	15,000	-3.2%	--	--	--	--	--	--	150	18.9%	--	--	--	--	72,000	1.3%
Ireland	2,500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Italy	40,000	--	--	--	--	--	--	--	3,800	--	--	--	--	--	10	--
Luxembourg	700	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Malta	--	--	--	--	--	--	--	--	6	--	--	--	--	--	--	--
Netherlands	3,400	--	--	--	--	--	--	--	5,000	--	--	--	--	--	--	--
Portugal	10,000	--	--	--	--	--	--	--	602	-0.3%	--	--	--	--	--	--
Spain	44,000	3.7%	--	--	--	--	594	23.5%	3,963	1.8%	3,863	-12.1%	5,531	2.7%	7,981	-8.9%
Sweden	2,650	-1.9%	--	--	--	--	--	--	--	--	--	--	--	--	--	--
United Kingdom	11,215	1.1%	--	--	--	--	621	15.1%	5,700	--	1,500	-25.0%	26,700	-4.6%	--	--
Total	186,000	-0.2%	--	--	282	0.7%	4,780	3.2%	42,800	1.5%	7,930	-11.8%	57,200	-2.5%	260,000	-1.1%
Total Western Europe	192,000	-0.2%	--	--	282	0.7%	4,780	3.2%	43,100	1.5%	7,930	-11.8%	57,500	-2.5%	260,000	-1.1%
Share of world total	9.7%	-8.9%	--	--	0.7%	0.6%	16.8%	-3.1%	19.7%	-2.0%	2.7%	-2.7%	1.4%	-12.4%	28.7%	-1.3%
Total Europe and Central Eurasia	293,000	2.5%	33,000	13.8%	4,840	1.6%	13,800	7.1%	58,100	3.5%	38,300	-1.1%	501,000	5.1%	603,000	1.7%
Share of world total	14.9%	-6.4%	42.4%	1.9%	11.4%	1.5%	48.6%	0.6%	26.6%	(7)	12.8%	9.1%	12.4%	-5.5%	66.5%	1.5%
United States ⁶	94,300	3.4%	--	--	10,600	-1.0%	1,100	--	43,700	8.4%	1,170	-5.7%	896,000	-2.3%	73,100	-2.3%
Share of world total	4.8%	-5.6%	--	--	24.9%	-1.2%	3.9%	-13.9%	20.0%	4.7%	0.4%	4.1%	22.1%	-12.2%	8.1%	-2.5%
World total ⁶	1,970,000	9.5%	157,000	12.0%	42,600	0.1%	28,400	6.4%	219,000	3.5%	298,000	-9.4%	4,050,000	11.3%	906,000	0.2%

See footnotes at end of table.

TABLE 4--Continued
EUROPE AND CENTRAL ASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2003 ^{1,2}

(Thousand metric tons unless otherwise specified)

Region and/or country	Minerals fuels--Continued									
	Natural gas					Petroleum				
	Dry		Plant liquids		Crude		Refinery products		Uranium, U content	
	Quantity (million cubic meters)	Percent change ⁴	Quantity (thousand 42-gallon barrels)	Percent change ⁴	Quantity (thousand 42-gallon barrels)	Percent change ⁴	Quantity (thousand 42-gallon barrels)	Percent change ⁴	Quantity (metric tons)	Percent change ⁴
Central Eurasia:										
Armenia	--	--	--	--	--	--	--	--	--	--
Azerbaijan	5,128	-0.3%	--	--	112,897	0.3%	45,188	1.7%	--	--
Belarus	254	3.3%	--	--	13,359	-1.4%	115,781	3.5%	--	--
Estonia	--	--	--	--	--	--	--	--	--	--
Georgia	18	6.6%	--	--	1,025	89.0%	138	16.8%	--	--
Kazakhstan	14,700	12.2%	--	--	333,000	7.8%	NA	NA	3,300	17.9%
Kyrgyzstan	27	-6.9%	--	--	503	-9.3%	--	--	--	--
Latvia	--	--	--	--	--	--	--	--	--	--
Lithuania	--	--	--	--	2,810	-11.7%	52,121	10.1%	--	--
Moldova	--	--	--	--	--	--	--	--	--	--
Russia	616,450	3.6%	93,806	4.5%	3,000,000	7.5%	1,394,820	2.7%	2,000	--
Tajikistan	33	9.3%	--	--	130	10.6%	--	--	--	--
Turkmenistan	50,090	11.3%	--	--	73,400	11.1%	--	--	--	--
Ukraine	19,460	5.8%	--	--	29,200	6.9%	161,480	10.0%	900	--
Uzbekistan	57,481	-0.3%	--	--	52,364	-0.9%	42,623	5.6%	1,600	-14.0%
Total	764,000	3.9%	93,806	4.5%	3,620,000	7.2%	1,810,000	3.6%	7,800	3.2%
Share of world total	29.1%	1.4%	4.3%	5.0%	14.2%	2.7%	9.0%	37.7%	24.0%	-4.9%
Central Europe and Balkans:										
Albania	9	-0.5%	--	--	2,202	-14.3%	33	7.1%	--	--
Bosnia and Herzegovina	--	--	--	--	--	--	500	--	--	--
Bulgaria	11	--	--	--	198	-18.2%	25,000	--	600	--
Croatia	2,190	3.2%	--	--	7,722	-5.1%	34,806	5.1%	--	--
Czech Republic	131	44.0%	--	--	1,984	22.5%	35,000	--	458	-4.0%
Hungary	3,010	-10.2%	--	--	8,640	7.9%	40,000	--	--	--
Macedonia	--	--	--	--	--	--	6,000	--	--	--
Poland	5,315	1.1%	--	--	5,534	4.6%	123,943	-3.7%	--	--
Romania	13,205	-3.2%	--	--	42,500	-3.4%	75,000	--	--	--
Serbia and Montenegro	115	7.5%	--	--	4,918	-1.8%	14,680	-15.6%	--	--
Slovakia	210	1.9%	--	--	350	-12.5%	40,000	--	--	--
Slovenia	5	-18.3%	--	--	3,538	-36.8%	--	--	--	--
Total	24,200	-2.5%	--	--	77,600	-4.1%	395,000	-1.5%	1,060	-1.8%
Share of world total	0.9%	-4.8%	--	--	0.3%	-8.1%	2.0%	30.9%	3.3%	-9.4%

See footnotes at end of table.

TABLE 4--Continued
EUROPE AND CENTRAL ASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2003 ^{1,2}

(Thousand metric tons unless otherwise specified)

Region and/or country	Minerals fuels--Continued									
	Natural gas				Petroleum				Uranium, U content	
	Dry		Plant liquids		Crude		Refinery products			
	Quantity (million cubic meters)	Percent change ⁴	Quantity (thousand 42-gallon barrels)	Percent change ⁴	Quantity (thousand 42-gallon barrels)	Percent change ⁴	Quantity (thousand 42-gallon barrels)	Percent change ⁴	Quantity (metric tons)	Percent change ⁴
Western Europe:										
European Free Trade Association:										
Iceland	--	--	--	--	--	--	--	--	--	--
Norway	40,000	--	42,000	2.4%	1,100,000	4.8%	132,000	1.5%	--	--
Switzerland	--	--	--	--	--	--	20,300	--	--	--
Total	40,000	--	42,000	2.4%	1,100,000	4.8%	152,000	1.3%	--	--
European Union (EU):										
Austria	1,200	--	--	--	6,976	-2.8%	84,119	-6.7%	--	--
Belgium	--	--	--	--	--	--	262,000	--	--	--
Denmark-Greenland	7,300	--	46,000	-1.5%	95,000	0.4%	75,300	0.9%	--	--
Finland	--	--	--	--	--	--	86,000	1.2%	--	--
France	1,520	-13.1%	--	--	9,150	-6.9%	420,992	1.9%	--	-100.0%
Germany	22,091	2.6%	--	--	28,568	2.9%	1,124,833	2.1%	114	-53.0%
Greece	36	--	140	--	1,400	-1.2%	173,000	0.9%	--	--
Ireland	2,500	--	--	--	--	--	21,000	--	--	--
Italy	18,000	--	350	--	30,000	5.5%	691,000	-6.2%	--	--
Luxembourg	--	--	--	--	--	--	--	--	--	--
Malta	--	--	--	--	--	--	--	--	--	--
Netherlands	74,000	--	160,000	--	18,000	--	608,000	--	--	--
Portugal	--	--	--	--	--	--	98,500	--	3	--
Spain	550	-0.6%	--	--	2,404	-0.9%	404,000	-9.4%	254	-19.4%
Sweden	--	--	--	--	--	--	157,000	0.6%	--	--
United Kingdom	70,000	--	60,000	-3.2%	815,000	0.6%	660,000	-1.2%	--	--
Total	197,000	0.2%	266,000	-1.0%	1,010,000	0.7%	4,870,000	-1.4%	371	-35.4%
Total Western Europe	237,000	0.1%	308,000	-0.5%	2,110,000	2.8%	5,020,000	-1.3%	371	-35.4%
Share of world total	9.0%	-2.3%	14.2%	(7)	8.2%	-1.5%	24.9%	31.1%	1.1%	-40.5%
Total Europe and Central Eurasia	1,030,000	2.9%	402,000	0.6%	5,800,000	5.4%	7,230,000	-0.1%	9,230	0.2%
Share of world total	39.1%	0.4%	18.5%	1.1%	22.7%	1.0%	35.9%	32.7%	28.4%	-7.6%
United States ⁶	533,000	0.6%	627,000	-8.6%	2,070,000	-1.1%	NA	NA	779	-11.8%
Share of world total	20.3%	-1.9%	28.8%	-8.1%	8.1%	-5.3%	NA	NA	2.4%	-18.7%
World total ⁶	2,620,000	2.5%	2,180,000	-0.5%	25,600,000	4.4%	20,100,000	-24.7%	32,500	8.5%

See footnotes at end of table.

TABLE 4--Continued

EUROPE AND CENTRAL ASIA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2003^{1,2}

NA Not available. W Withheld to avoid disclosing proprietary data; not included in region and world totals. -- Zero or zero percent.

¹Some of the individual entries in this table may differ from those that appear in individual country production tables elsewhere in this volume owing to the inclusion in this table of data received at a later date.

²Totals may not add due to independent rounding. Percentages are calculated on unrounded data. Table includes data available as of October 17, 2005.

³Primary production also includes undifferentiated (primary and secondary) production for some countries listed.

⁴Percent change is calculated for each region and/or country by taking 100 times the difference of the current year's data over last year's data minus 100.

⁵Less than 1/2 unit.

⁶U.S. data and world totals are rounded to no more than three significant digits.

⁷Less than 0.1 percent.

TABLE 5
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF BAUXITE

(Metric tons)

Region and country	1990	1995	2000	2003	2005 ^c	2007 ^c	2009 ^c
Europe:							
Western Europe:							
France	490,000	75,000	185,000	168,000	150,000	150,000	150,000
Greece	2,486,000	2,200,000	1,965,561	2,418,000	2,200,000	2,000,000	2,000,000
Total	2,976,000	2,275,000	2,150,561	2,586,000	2,350,000	2,150,000	2,150,000
Central Europe:							
Albania	26,000	--	5,000	5,000	5,000	5,000	5,000
Bosnia and Herzegovina	1,703,000	75,000	20,700	229,000	450,000	500,000	500,000
Croatia	309,109	1,500	--	25,000	--	--	--
Hungary	2,559,000	1,015,000	1,046,000	666,000	1,000,000	1,000,000	1,100,000
Romania	242,800	175,000	--	--	--	--	--
Serbia and Montenegro	940,000	60,000	630,000	540,000	600,000	700,000	800,000
Total	5,779,909	1,326,500	1,701,700	1,465,000	2,060,000	2,210,000	2,410,000
Central Eurasia:							
Kazakhstan	3,100,000	3,071,000	3,730,000	4,737,000	4,800,000	5,000,000	5,500,000
Russia	4,000,000	4,000,000	4,200,000	5,442,000	6,000,000	6,500,000	7,000,000
Total	7,100,000	7,071,000	7,930,000	10,179,000	10,800,000	11,500,000	12,500,000
Regional total	15,855,909	10,672,500	11,782,261	14,230,000	15,200,000	15,900,000	17,100,000

^cEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. -- Zero.

TABLE 6
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF ALUMINUM (PRIMARY)

(Metric tons)

Region and country	1990	1995	2000	2003	2005 ^c	2007 ^c	2009 ^c
Europe:							
Western Europe:							
France	325,000	366,000	441,000	445,000	450,000	450,000	450,000
Germany	720,000	575,000	644,000	661,000	650,000	600,000	600,000
Greece	149,000	144,000	168,000	165,000	160,000	160,000	160,000
Iceland	87,000	100,100	224,000	266,000	350,000	520,000	660,000
Italy	232,000	178,000	190,000	191,000	190,000	180,000	180,000
Netherlands	269,000	216,000	301,000	285,000	275,000	275,000	275,000
Norway	894,000	902,500	1,026,000	1,192,000	1,000,000	930,000	810,000
Spain	353,000	362,000	366,000	389,000	400,000	400,000	400,000
Sweden	126,300	117,500	101,000	101,000	103,000	105,000	107,000
Switzerland	72,000	21,000	36,000	40,000	40,000	40,000	40,000
United Kingdom	294,000	238,000	305,000	343,000	325,000	300,000	300,000
Total	3,521,300	3,220,100	3,802,000	4,078,000	3,940,000	3,960,000	3,980,000
Central Europe:							
Bosnia and Herzegovina	89,000	15,000	95,000	112,000	115,000	115,000	115,000
Croatia	74,037	30,944	15,000	--	--	--	--
Hungary	105,162	29,000	34,000	35,000	35,000	35,000	35,000
Poland	46,000	56,000	47,000	45,000	53,000	53,000	53,000
Romania	178,000	144,000	179,000	196,000	200,000	200,000	200,000
Serbia and Montenegro	81,000	17,000	88,000	117,000	120,000	120,000	120,000
Slovakia	30,100	38,100	137,000	165,000	170,000	170,000	170,000
Slovenia	99,500	57,700	84,000	110,000	117,000	117,000	117,000
Total	702,799	387,744	679,000	780,000	810,000	810,000	810,000
Central Eurasia:							
Azerbaijan	50,000	27,000	--	18,565	20,000	40,000	60,000
Kazakhstan	--	--	--	--	--	30,000	50,000
Russia	2,700,000	2,724,000	3,245,000	3,478,000	3,600,000	3,800,000	4,200,000
Tajikistan	450,000	230,000	300,000	319,000	330,000	360,000	370,000
Ukraine	100,000	98,000	104,000	113,600	120,000	130,000	150,000
Total	3,300,000	3,079,000	3,649,000	3,929,165	4,070,000	4,360,000	4,830,000
Regional total	7,524,099	6,686,844	8,130,000	8,787,165	8,820,000	9,130,000	9,620,000

^cEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. -- Zero.

TABLE 7
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF ALUMINUM (SECONDARY)

(Thousand metric tons)

Region and country	1990	1995	2000	2003	2005 ^e	2007 ^e	2009 ^e
Europe:							
Western Europe:							
Austria	36	94	158	150	150	150	150
Belgium	7	4	1	--	1	1	1
Denmark-Greenland	11	35	16	18	20	20	20
Finland	24	35	45	33	32	32	30
France	208	231	260	240	250	250	250
Germany	590	531	572	680	720	800	850
Greece	3	3	3	2	2	2	2
Italy	350	412	658	594	600	600	600
Netherlands	134	192	119	120	120	120	120
Norway	49	56	260	257	260	260	260
Portugal	NA	NA	18	18	16	16	16
Spain	63	107	241	245	240	240	240
Sweden	30	23	26	30	32	32	34
Switzerland	34	11	15	6	6	6	6
United Kingdom	121	282	285	205	225	225	225
Total	1,660	2,016	2,677	2,598	2,670	2,750	2,800
Central Europe:							
Bosnia and Herzegovina	10	10	5	5	5	5	5
Bulgaria	5	5	8	2	15	15	15
Czech Republic	--	48	40	20	50	50	50
Hungary	30	4	55	50	80	80	80
Macedonia	5	4	3	4	10	10	10
Poland	--	5	5	10	2	2	2
Romania	10	3	2	--	--	--	--
Total	60	79	118	91	162	162	162
Central Eurasia: ¹							
Russia	NA	75	125	140	160	175	200
Ukraine	NA	98	129	130	130	130	150
Uzbekistan	NA	3	2	3	3	3	3
Total	NA	176	256	273	293	308	353
Regional total	1,720	2,271	3,051	2,962	3,130	3,220	3,320

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. NA Not available. -- Zero.

¹Information about the amount of secondary aluminum collected and processed in the other member countries of the Commonwealth of Independent States is unavailable.

TABLE 8
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF COPPER (MINE OUTPUT)

(Cu content in metric tons)

Region and country	1990	1995	2000	2003	2005 ^e	2007 ^e	2009 ^e
Europe:							
Western Europe:							
Finland	12,600	9,790	14,354	14,900	15,000	15,000	15,000
France	483	--	--	--	--	--	--
Norway	19,745	6,799	--	--	--	--	--
Portugal	159,841	129,726	76,200	78,000	100,000	100,000	100,000
Spain	13,300	24,519	23,312	--	--	--	--
Sweden	74,300	83,603	77,765	83,000	83,000	84,000	84,000
United Kingdom	955	--	--	--	--	--	--
Total	281,224	254,437	191,631	175,900	198,000	199,000	199,000
Central Europe:							
Albania	11,500	3,800	--	--	--	--	5,000
Bulgaria	26,000	76,000	92,000	92,000	90,000	90,000	90,000
Macedonia	7,300	6,000	6,000	4,000	10,000	15,000	15,000
Poland	329,000	384,200	454,000	495,000	525,000	550,000	550,000
Romania	32,000	24,500	16,100	21,300	20,000	25,000	25,000
Serbia and Montenegro	110,000	74,600	56,000	26,400	40,000	75,000	75,000
Slovakia	3,100	--	--	--	--	--	--
Total	518,900	569,100	624,100	638,700	685,000	755,000	760,000
Central Eurasia:							
Armenia	15,000	8,000	12,000	18,000	23,000	25,000	30,000
Georgia	10,000	5,000	8,000	12,000	15,000	15,000	15,000
Kazakhstan	400,000	200,000	430,000	485,000	490,000	500,000	520,000
Russia	650,000	525,000	570,000	675,000	680,000	700,000	750,000
Uzbekistan	70,000	40,000	65,000	80,000	80,000	80,000	80,000
Total	1,145,000	778,000	1,085,000	1,270,000	1,290,000	1,320,000	1,400,000
Regional total	1,945,124	1,601,537	1,900,731	2,084,600	2,170,000	2,270,000	2,350,000

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. -- Zero.

TABLE 9
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF REFINED COPPER (PRIMARY AND SECONDARY)

(Metric tons)

Region and country	1990	1995	2000	2003	2005 ^e	2007 ^e	2009 ^e
Europe:							
Western Europe:							
Austria	--	54,000	79,000	65,000	60,000	60,000	60,000
Belgium	331,857	376,000	423,100	425,000	400,000	400,000	400,000
Finland	65,100	73,700	114,035	136,000	138,000	140,000	142,000
France	44,034	42,500	1,500	--	--	--	--
Germany	476,200	616,390	709,400	598,000	600,000	600,000	600,000
Italy	83,000	98,000	72,800	27,000	25,000	25,000	25,000
Norway	36,500	34,300	27,000	36,000	36,000	38,000	38,000
Spain	170,567	164,213	316,000	273,000	275,000	275,000	275,000
Sweden	97,300	105,100	130,000	214,000	220,000	230,000	235,000
United Kingdom	121,634	54,799	3,000	--	--	--	--
Total	1,426,192	1,619,002	1,875,835	1,774,000	1,750,000	1,770,000	1,780,000
Central Europe:							
Albania	11,000	3,000	--	--	--	--	--
Bulgaria	24,300	28,800	32,400	42,000	45,000	50,000	50,000
Czech Republic	20,800	20,000	20,000	18,000	20,000	20,000	20,000
Hungary	12,800	11,000	12,000	10,000	5,000	5,000	5,000
Poland	346,000	406,700	486,002	530,000	550,000	550,000	550,000
Romania	44,300	27,000	19,303	18,700	30,000	30,000	30,000
Serbia and Montenegro	151,000	78,500	45,632	13,700	50,000	60,000	60,000
Slovakia	24,600	29,000	1,500	5,800	3,000	3,000	3,000
Total	634,800	604,000	616,837	638,200	703,000	718,000	718,000
Central Eurasia:							
Kazakhstan	365,000	255,500	394,722	432,000	430,000	480,000	550,000
Russia	700,000	560,000	840,000	835,000	900,000	1,000,000	1,000,000
Uzbekistan	110,000	95,000	80,000	75,000	95,000	110,000	120,000
Total	1,175,000	910,500	1,314,722	1,342,000	1,430,000	1,590,000	1,670,000
Regional total	3,235,992	3,133,502	3,807,394	3,754,200	3,880,000	4,080,000	4,160,000

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. -- Zero.

TABLE 10
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF GOLD (MINE OUTPUT)

(Kilograms)

Region and country	1990	1995	2000	2003	2005 ^c	2007 ^c	2009 ^c
Europe:							
Western Europe:							
Austria	58	100	100	25	25	25	25
Finland	2,810	2,061	4,951	5,600	5,800	6,000	6,200
France	4,236	4,615	2,632	1,470	2,000	2,000	2,000
Italy	--	--	791	500	500	500	500
Portugal	276	--	--	--	--	--	--
Spain	6,814	4,131	4,310	5,362	6,000	6,000	6,000
Sweden	6,330	6,528	3,570	4,300	4,600	4,900	5,200
Total	20,524	17,435	16,354	17,257	18,900	19,400	19,900
Central Europe:							
Bulgaria	2,400	3,100	2,347	2,142	3,500	3,500	3,500
Czech Republic	187	--	3,000	1,000	1,000	1,000	1,000
Macedonia	--	760	750	400	400	300	300
Poland	300	510	367	356	450	450	450
Romania	3,000	4,000	500	400	500	600	600
Serbia and Montenegro	8,170	3,040	1,121	600	2,000	3,000	3,000
Slovakia	500	518	306	50	100	100	100
Total	14,557	11,928	8,391	4,948	8,000	9,000	9,000
Central Eurasia:							
Armenia	1,000	514	600	1,800	2,500	3,000	3,500
Georgia	2,000	500	2,924	2,000	2,500	3,000	3,500
Kazakhstan	30,000	18,200	28,171	30,000	30,000	30,000	30,000
Kyrgyzstan	2,000	1,500	22,000	22,476	25,000	27,000	30,000
Russia	183,000	131,938	142,738	170,068	180,000	200,000	220,000
Tajikistan	2,500	500	2,700	2,700	5,000	6,000	8,000
Uzbekistan	65,000	65,000	89,900	95,000	95,000	100,000	105,000
Total	285,500	218,152	289,033	324,044	340,000	369,000	400,000
Regional total	320,581	247,515	313,778	346,249	367,000	397,000	429,000

^cEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. -- Zero.

TABLE 11
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF IRON ORE (MINE OUTPUT)

(Iron content in metric tons)

Region and country	Average content of iron content	1990	1995	2000	2003	2005 ^c	2007 ^c	2009 ^c
Europe:								
Western Europe:								
Austria	58%	653,000	709,000	553,000	570,000	300,000	100,000	100,000
France	28%	2,793,000	432,000	--	--	--	--	--
Germany	14%	11,686	960	--	--	--	--	--
Greece	38%	861,000	800,000	575,000	600	500,000	500,000	500,000
Norway	62%	1,350,000	1,348,000	369,000	350,000	350,000	300,000	300,000
Portugal	36%	5,210	5,417	11,800	10,000	10,000	10,000	10,000
Spain	38%	1,438,000	960,000	66,907	--	--	--	--
Sweden	65%	12,900,000	13,880,000	13,556,000	14,000,000	14,000,000	14,500,000	14,500,000
United Kingdom	54%	12,000	568	540	275	110	55	50
Total	XX	20,023,896	18,135,945	15,132,247	14,930,875	15,200,000	15,400,000	15,400,000
Central Europe:								
Albania	45%	410,000	--	--	--	--	--	--
Bosnia and Herzegovina	53%	1,580,000	52,000	191,000	63,000	85,000	85,000	85,000
Bulgaria	50%	270,000	265,000	178,000	127,000	120,000	120,000	120,000
Czech Republic	29%	60,000	10,000	6,000	--	--	--	--
Macedonia	40%	3,000	1,000	1,000	1,000	1,000	1,000	1,000
Poland	50%	130	--	--	--	--	--	--
Romania	52%	275,000	147,000	55,000	79,000	80,000	80,000	80,000
Serbia and Montenegro	45%	650,000	61,000	500	--	--	--	--
Slovakia	34%	480,000	225,000	255,000	200,000	200,000	150,000	150,000
Total	XX	3,728,130	761,000	686,500	470,000	486,000	436,000	436,000
Central Eurasia:								
Azerbaijan	57%	275,000	825	--	1,767	--	--	--
Kazakhstan	57%	13,000,000	8,000,000	9,200,000	9,867,000	11,000,000	12,000,000	13,000,000
Russia	58%	60,000,000	46,000,000	50,000,000	53,000,000	55,000,000	57,000,000	58,000,000
Ukraine	55%	50,000,000	29,000,000	30,600,000	34,300,000	34,000,000	34,000,000	34,000,000
Total	XX	123,275,000	83,000,825	89,800,000	97,200,000	100,000,000	103,000,000	105,000,000
Regional total	XX	147,027,026	101,897,770	105,618,747	112,569,642	116,000,000	119,000,000	121,000,000

^cEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. XX Not applicable. -- Zero.

TABLE 12
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF PIG IRON AND DIRECT-REDUCED IRON

(Metric tons)

Region and country	1990	1995	2000	2003	2005 ^e	2007 ^e	2009 ^e
Europe:							
Western Europe:							
Austria	3,070,000	3,838,000	4,318,000	4,600,000	4,500,000	4,500,000	4,500,000
Belgium	8,524,000	9,199,000	8,472,000	8,000,000	8,000,000	8,000,000	8,000,000
Finland	2,280,000	2,242,000	2,983,000	2,800,000	2,800,000	2,800,000	2,800,000
France	14,415,000	12,860,000	13,661,000	12,756,000	13,000,000	13,000,000	12,000,000
Germany	29,600,000	30,012,000	30,846,000	29,461,000	30,000,000	30,000,000	30,000,000
Italy	11,900,000	11,684,000	11,219,000	9,800,000	10,000,000	10,000,000	10,000,000
Netherlands	4,960,000	5,646,500	4,969,000	5,000,000	5,000,000	5,000,000	5,000,000
Norway	54,000	70,000	60,000	90,000	90,000	100,000	100,000
Portugal	339,000	411,000	382,000	100,000	100,000	100,000	100,000
Spain	5,540,000	5,128,000	4,059,000	4,000,000	4,000,000	4,000,000	4,000,000
Sweden	2,830,000	3,144,000	3,146,000	3,700,000	3,700,000	3,800,000	3,800,000
Switzerland	129,000	100,000	100,000	100,000	100,000	100,000	100,000
United Kingdom	12,300,000	12,236,000	10,989,000	10,200,000	10,200,000	10,200,000	10,200,000
Total	95,941,000	96,570,500	95,204,000	90,607,000	91,500,000	91,600,000	90,600,000
Central Europe:							
Albania	96,000	--	--	--	--	--	--
Bosnia and Herzegovina	1,280,000	100,000	57,000	60,000	50,000	50,000	50,000
Bulgaria	1,140,000	1,581,000	1,220,000	1,100,000	1,400,000	1,400,000	1,400,000
Czech Republic	5,800,000	5,289,000	4,621,000	5,200,000	5,000,000	5,000,000	5,000,000
Hungary	1,415,000	1,515,000	1,340,000	1,333,000	1,300,000	1,300,000	1,300,000
Macedonia	53,000	--	--	--	--	--	--
Poland	8,660,000	7,373,000	6,492,000	5,632,000	5,300,000	5,300,000	5,300,000
Romania	6,360,000	4,203,000	3,066,000	4,101,000	4,000,000	4,000,000	4,000,000
Serbia and Montenegro	767,000	107,836	563,000	635,000	600,000	600,000	600,000
Slovakia	3,560,000	3,207,000	3,166,000	3,892,000	3,500,000	3,500,000	3,500,000
Total	29,131,000	23,375,836	20,525,000	21,953,000	21,200,000	21,200,000	21,200,000
Central Eurasia:							
Kazakhstan	4,600,000	3,438,000	4,000,000	4,140,000	4,400,000	4,700,000	5,000,000
Russia	47,500,000	41,400,000	44,618,100	51,268,000	53,000,000	56,000,000	58,000,000
Ukraine	35,000,000	20,000,000	25,700,000	29,570,000	31,000,000	32,000,000	32,000,000
Total	87,100,000	64,838,000	74,318,100	84,978,000	88,400,000	92,700,000	95,000,000
Regional total	212,172,000	184,784,336	190,047,100	197,538,000	201,000,000	205,000,000	207,000,000

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. -- Zero.

TABLE 13
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF CRUDE STEEL

(Metric tons)

Region and country	1990	1995	2000	2003	2005 ^e	2007 ^e	2009 ^e
Europe:							
Western Europe:							
Austria	4,241,000	4,537,000	5,725,000	6,261,000	6,000,000	6,000,000	6,000,000
Belgium	11,419,000	11,606,000	11,635,000	11,500,000	11,000,000	11,000,000	11,000,000
Denmark	610,000	654,000	803,000	--	--	--	--
Finland	2,861,000	3,176,000	4,096,000	4,766,000	4,800,000	4,800,000	4,800,000
France	19,015,000	18,096,000	21,002,000	19,803,000	20,000,000	18,000,000	18,000,000
Germany	43,981,000	42,051,000	46,376,000	44,809,000	42,000,000	42,000,000	42,000,000
Greece	999,000	939,170	1,088,000	1,800,000	1,600,000	1,600,000	1,600,000
Ireland	326,000	309,000	342,000	--	--	--	--
Italy	25,439,000	27,766,000	26,475,000	26,740,000	24,000,000	24,000,000	24,000,000
Luxembourg	3,560,000	5,320,000	2,571,000	2,700,000	2,600,000	2,600,000	2,600,000
Netherlands	5,412,000	6,409,000	5,667,000	6,000,000	6,000,000	6,000,000	6,000,000
Norway	376,000	503,000	620,000	698,000	700,000	700,000	700,000
Portugal	744,000	829,000	1,097,000	722,000	700,000	600,000	500,000
Spain	12,718,000	13,975,000	15,844,000	16,129,000	16,250,000	16,000,000	16,000,000
Sweden	4,454,000	4,953,000	5,227,000	5,707,000	5,700,000	5,800,000	5,800,000
Switzerland	970,000	1,000,000	1,140,000	1,100,000	1,000,000	1,000,000	1,000,000
United Kingdom	17,908,000	17,604,000	15,306,000	12,949,000	11,000,000	10,000,000	10,000,000
Total	155,033,000	159,727,170	165,014,000	161,684,000	153,000,000	150,000,000	150,000,000
Central Europe:							
Albania	65,000	22,000	64,700	93,000	100,000	100,000	100,000
Bosnia and Herzegovina	1,648,000	--	77,000	166,000	90,000	95,000	95,000
Bulgaria	2,185,000	2,724,000	2,023,000	1,950,000	2,500,000	2,500,000	2,500,000
Croatia	423,533	45,373	71,021	43,380	45,000	45,000	45,000
Czech Republic	9,996,000	7,189,000	6,216,000	6,800,000	6,500,000	6,500,000	6,500,000
Hungary	2,963,000	1,865,000	1,969,000	1,984,000	2,000,000	2,000,000	2,000,000
Macedonia	247,000	33,000	161,000	291,000	300,000	300,000	300,000
Poland	13,625,000	11,890,000	10,508,000	9,110,000	9,000,000	9,000,000	9,000,000
Romania	9,761,000	6,557,000	4,672,000	5,690,000	5,500,000	5,500,000	5,500,000
Serbia and Montenegro	1,012,000	180,496	682,000	722,000	700,000	700,000	700,000
Slovakia	4,779,000	3,958,000	3,733,000	4,549,000	4,500,000	4,500,000	4,500,000
Slovenia	504,000	407,000	519,000	543,000	500,000	500,000	500,000
Total	47,208,533	34,870,869	30,695,721	31,941,380	31,700,000	31,700,000	31,700,000
Central Eurasia:							
Azerbaijan	NA	12,000	--	1,531	250,000	300,000	350,000
Belarus	NA	744,000	1,623,000	1,694,000	2,000,000	2,100,000	2,200,000
Georgia	1,200,000	84,000	5,000	--	100,000	200,000	300,000
Kazakhstan	6,754,000	3,027,000	4,770,000	5,067,000	5,300,000	5,600,000	6,000,000
Latvia	500,000	279,000	500,292	546,000	550,000	550,000	550,000
Moldova	NA	663,000	909,000	875,000	1,100,000	1,200,000	1,300,000
Russia	89,600,000	51,600,000	59,097,500	62,707,600	65,000,000	68,000,000	70,000,000
Ukraine	55,000,000	23,309,000	31,780,000	36,900,000	38,000,000	39,000,000	39,000,000
Uzbekistan	NA	352,000	420,000	472,000	500,000	500,000	500,000
Total	153,054,000	80,070,000	99,104,792	108,263,131	113,000,000	117,000,000	120,000,000
Regional total	355,295,533	274,668,039	294,814,513	301,888,511	298,000,000	299,000,000	302,000,000

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. NA Not available. -- Zero.

TABLE 14
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF LEAD (MINE OUTPUT)

(Pb content, metric tons)

Region and country	1990	1995	2000	2003	2005 ^c	2007 ^c	2009 ^c
Europe:							
Western Europe:							
France	1,141	--	--	--	--	--	--
Germany	8,600	--	--	--	--	--	--
Greece	26,200	14,283	18,235	29,000	20,000	15,000	--
Ireland	35,300	46,100	57,825	50,339	60,000	60,000	50,000
Italy	15,600	15,400	2,000	500	--	--	--
Spain	61,472	30,346	40,300	1,765	2,000	2,000	2,000
Sweden	98,300	137,200	106,584	50,400	40,000	40,000	30,000
United Kingdom	1,380	1,600	1,000	700	700	700	700
Total	247,993	244,929	225,944	132,704	123,000	118,000	83,000
Central Europe:							
Bosnia and Herzegovina	7,500	150	200	--	200	200	200
Bulgaria	57,000	33,000	14,000	24,600	25,000	25,000	25,000
Macedonia	15,000	17,000	24,000	5,000	5,000	15,000	15,000
Poland	90,300	99,400	113,800	119,000	80,000	60,000	60,000
Romania	25,100	23,200	18,750	18,102	20,000	25,000	25,000
Serbia and Montenegro	15,200	3,300	26,000	1,800	500	1,500	1,500
Total	210,100	176,050	196,750	168,502	131,000	127,000	127,000
Central Eurasia:							
Georgia	NA	NA	200	400	200	200	200
Kazakhstan	200,000	70,000	40,000	40,000	50,000	55,000	60,000
Russia	30,000	23,000	13,300	14,500	15,000	15,000	15,000
Tajikistan	2,000	500	800	800	1,000	1,000	1,000
Total	232,000	93,500	54,300	55,700	66,200	71,200	76,200
Regional total	690,093	514,479	476,994	356,906	320,000	316,000	286,000

^cEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. NA Not available. -- Zero.

TABLE 15
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF REFINED LEAD (PRIMARY)

(Metric tons)

Region and country	1990	1995	2000	2003	2005 ^e	2007 ^e	2009 ^e
Europe:							
Western Europe:							
Belgium	106,809	95,300	98,000	80,000	90,000	90,000	80,000
France	162,260	128,708	109,868	1,535	5,000	5,000	5,000
Germany	207,600	146,750	210,515	133,417	130,000	125,000	125,000
Greece	--	--	6,000	--	5,000	5,000	5,000
Italy	64,600	84,900	75,000	16,000	25,000	10,000	10,000
Sweden	47,500	39,700	30,604	24,200	20,000	15,000	15,000
United Kingdom	156,000	150,000	166,411	181,668	175,000	150,000	100,000
Total	744,769	645,358	696,398	436,820	450,000	400,000	340,000
Central Europe:							
Bosnia and Herzegovina	250	100	100	100	200	300	300
Bulgaria	66,600	71,200	84,100	69,000	80,000	80,000	80,000
Macedonia	22,000	22,500	22,900	6,400	2,000	5,000	15,000
Poland	64,800	66,421	55,900	25,000	25,000	20,000	20,000
Romania	15,700	22,000	25,000	23,100	25,000	35,000	30,000
Serbia and Montenegro	48,000	23,600	1,242	--	1,000	2,000	2,000
Total	217,350	205,821	189,242	123,600	133,000	142,000	147,000
Central Eurasia:							
Kazakhstan	290,300	88,500	185,800	140,700	180,000	250,000	260,000
Russia	35,000	23,000	59,000	60,500	70,000	80,000	90,000
Total	325,300	111,500	244,800	201,200	250,000	330,000	350,000
Regional total	1,287,419	962,679	1,130,440	761,620	833,000	872,000	837,000

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. -- Zero.

TABLE 16
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF REFINED LEAD (SECONDARY)

(Metric tons)

Region and country	1990	1995	2000	2003	2005 ^e	2007 ^e	2009 ^e
Europe:							
Western Europe:							
Austria	15,120	21,919	24,000	20,000	20,000	20,000	20,000
Belgium	100,000	26,400	20,000	20,000	20,000	20,000	20,000
France	108,210	168,000	158,226	96,155	90,000	90,000	90,000
Germany	186,700	164,400	204,000	221,229	200,000	200,000	200,000
Greece	5,000	5,000	5,000	--	5,000	5,000	5,000
Ireland	15,000	11,000	9,000	6,600	7,000	8,000	8,000
Italy	102,000	95,500	160,000	198,000	150,000	150,000	150,000
Netherlands	44,000	20,000	22,200	22,000	20,000	20,000	20,000
Portugal	6,000	7,700	5,000	4,000	4,000	4,000	4,000
Spain	50,000	80,000	120,000	99,100	90,000	90,000	90,000
Sweden	22,100	51,500	47,255	52,000	50,000	45,000	45,000
Switzerland	6,000	6,000	10,100	8,000	6,000	6,000	5,000
United Kingdom	174,000	171,000	170,740	169,574	160,000	150,000	150,000
Total	834,130	828,419	955,521	916,658	822,000	808,000	807,000
Central Europe:							
Czech Republic	NA	20,000	28,000	20,000	30,000	35,000	35,000
Macedonia				1,600			
Poland	NA	38,600	46,400	45,000	45,000	45,000	45,000
Romania	5,000	4,000	3,000	5,000	5,000	5,000	5,000
Slovenia	12,200	7,237	15,300	15,000	15,000	15,000	15,000
Total	17,200	69,837	92,700	86,600	95,000	100,000	100,000
Central Eurasia, Ukraine	10,000	10,000	15,034	12,000	16,000	17,000	18,000
Regional total	861,330	908,256	1,063,255	1,015,258	933,000	925,000	925,000

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. -- Zero.

TABLE 17
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF NICKEL (MINE OUTPUT)

(Ni content in metric tons)

Region and country	1990	1995	2000	2003	2005 ^e	2007 ^e	2009 ^e
Europe:							
Western Europe:							
Finland	11,500	3,439	2,600	2,700	2,700	2,800	2,800
Greece	18,500	19,974	17,126	21,000	17,000	16,000	16,000
Norway	3,100	3,386	2,538	--	--	--	--
Spain	--	--	--	--	1,900	5,000	10,000
Total	33,100	26,799	22,264	23,700	21,600	23,800	28,800
Central Europe:							
Albania	8,800	--	--	--	--	--	--
Macedonia	--	3,500	--	5,600	5,500	5,500	5,500
Total	8,800	3,500	--	5,600	5,500	5,500	5,500
Central Eurasia:							
Kazakhstan	--	--	--	--	--	--	15,000
Russia	380,000	250,000	315,000	315,000	320,000	330,000	340,000
Total	380,000	250,000	315,000	315,000	320,000	330,000	355,000
Regional total	421,900	280,299	337,264	344,300	347,000	359,000	389,000

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. -- Zero.

TABLE 18
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF PLATINUM (MINE OUTPUT)

(Kilograms)

Region and country	1990	1995	2000	2003	2005 ^e	2007 ^e	2009 ^e
Europe:							
Western Europe:							
Finland	60	37	441	505	500	500	500
Norway	1,500	1,500	1,000	1,000	1,000	1,000	1,000
Total	1,560	1,537	1,441	1,505	1,500	1,500	1,500
Central Europe:							
Poland	--	21	21	20	20	20	20
Serbia and Montenegro	21	6	3	1	1	1	1
Total	21	27	24	21	21	21	21
Central Eurasia, Russia ¹	44,000	31,000	34,000	36,000	37,000	37,000	38,000
Regional total	45,581	32,564	35,465	37,526	38,500	38,500	39,500

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. -- Zero.

¹The large decrease in Russian projected platinum production reflects newly released Russian platinum production data. Future volumes will reflect revised historic platinum production data.

TABLE 19
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF PALLADIUM (MINE OUTPUT)

(Kilograms)

Region and country	1990	1995	2000	2003	2005 ^e	2007 ^e	2009 ^e
Central Europe:							
Poland	--	12	12	10	10	10	10
Serbia and Montenegro	130	46	21	8	8	8	8
Total	130	58	33	18	18	18	18
Central Eurasia, Russia ¹	91,000	65,000	71,000	75,000	96,000	96,000	98,000
Regional total	91,130	65,058	71,033	75,018	96,000	96,000	98,000

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. -- Zero.

¹The large increase in projected Russian palladium production reflects newly released Russian palladium production data. Future volumes will reflect revised historic palladium production data.

TABLE 20
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF SILVER (MINE OUTPUT)

(Kilograms)

Region and country	1990	1995	2000	2003	2005 ^c	2007 ^c	2009 ^c
Europe:							
Western Europe:							
Finland	28,500	26,098	25,364	34,000	34,000	36,000	36,000
France	22,190	3,500	720	500	500	500	500
Germany	8,000	--	--	--	--	--	--
Greece	62,600	33,000	37,145	79,200	75,000	75,000	50,000
Ireland	8,800	13,700	25,100	20,400	25,000	25,000	25,000
Italy	14,000	13,900	4,000	3,000	--	--	--
Portugal	722	38,600	20,430	21,100	20,000	20,000	20,000
Spain	270,000	123,615	83,000	2,246	2,000	2,000	2,000
Sweden	243,000	268,200	328,737	306,800	310,000	310,000	315,000
United Kingdom	2,695	--	--	--	--	--	--
Total	660,507	520,613	524,496	467,246	467,000	469,000	449,000
Central Europe:							
Bulgaria	54,000	30,000	55,000	62,000	70,000	70,000	70,000
Czech Republic	16,200	--	25,000	25,000	25,000	20,000	15,000
Macedonia	15,500	16,000	20,000	10,000	15,000	20,000	20,000
Poland	832,000	1,001,000	1,144,000	1,237,000	1,300,000	1,400,000	1,400,000
Romania	80,000	60,000	18,000	18,000	30,000	50,000	50,000
Serbia and Montenegro	85,900	31,100	9,068	2,000	5,000	5,000	5,000
Total	1,083,600	1,138,100	1,271,068	1,354,000	1,450,000	1,570,000	1,560,000
Central Eurasia:							
Armenia	1,000	184	1,300	4,000	4,000	4,000	4,500
Georgia	50,000	20,000	33,884	33,000	35,000	40,000	45,000
Kazakhstan	700,000	489,000	927,100	805,000	850,000	900,000	1,000,000
Russia	660,000	300,000	370,000	700,000	700,000	800,000	900,000
Tajikistan	5,000	5,000	5,000	6,000	8,000	10,000	15,000
Uzbekistan	70,000	70,000	89,900	80,000	90,000	95,000	100,000
Total	1,486,000	884,184	1,427,184	1,628,000	1,690,000	1,850,000	2,060,000
Regional total	3,230,107	2,542,897	3,222,748	3,449,246	3,600,000	3,880,000	4,070,000

^cEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. -- Zero.

TABLE 21
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF TIN (MINE OUTPUT)

(Sn content in metric tons)

Region and country	1990	1995	2000	2003	2005 ^e	2007 ^e	2009 ^e
Europe:							
Western Europe:							
Portugal	1,400	4,627	1,227	354	350	350	350
Spain	27	2,047	1,819	247	250	250	250
Total	1,427	6,674	3,046	601	600	600	600
Central Eurasia:							
Kazakhstan	--	--	--	--	--	--	200
Kyrgyzstan	--	--	300	350	400	500	500
Russia	8,000	3,700	5,000	2,000	3,500	4,000	4,000
Total	8,000	3,700	5,300	2,350	3,900	4,500	4,700
Regional total	9,427	10,374	8,346	2,951	4,500	5,100	5,300

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. -- Zero.

TABLE 22
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF TIN (REFINED METAL)

(Metric tons)

Region and country	1990	1995	2000	2003	2005 ^c	2007 ^c	2009 ^c
Europe:							
Western Europe:							
Germany	NA	15,000	500	--	--	--	--
Portugal	1,400	100	748	218	--	--	--
Central Europe, Bulgaria	10	10	10	10	--	--	--
Central Eurasia, Russia	9,000	4,500	4,200	5,500	5,000	6,000	6,000
Regional total	10,410	19,610	5,458	5,728	5,000	6,000	6,000

^cEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. NA Not available. -- Zero.

TABLE 23
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF ILMENITE (MINE OUTPUT)

(TiO₂ content in metric tons)

Region and country	1990	1995	2000	2003	2005 ^e	2007 ^e	2009 ^e
Western Europe, Norway	361,000	325,000	340,000	345,000	350,000	350,000	350,000
Central Eurasia:							
Russia	--	--	--	--	--	--	50
Ukraine	350,000	150,000	242,000	281,400	280,000	325,000	350,000
Total	350,000	150,000	242,000	281,400	280,000	325,000	350,000
Regional total	711,000	475,000	582,000	626,400	630,000	675,000	700,000

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. -- Zero.

TABLE 24
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF TUNGSTEN (MINE OUTPUT)

(W content of concentrate in metric tons)

Region and country	1990	1995	2000	2003	2005 ^c	2007 ^c	2009 ^c
Western Europe:							
Austria	1,378	738	1,600	1,400	1,200	1,200	1,200
France	--	600	500	500	500	500	500
Portugal	1,400	873	743	715	650	600	600
Total	2,778	2,211	2,843	2,615	2,350	2,300	2,300
Central Eurasia:							
Russia	8,000	4,000	3,500	3,900	4,000	4,200	4,400
Uzbekistan	500	300	--	--	--	--	500
Total	8,500	4,300	3,500	3,900	4,000	4,200	4,900
Regional total	11,278	6,511	6,343	6,515	6,350	6,500	7,200

^cEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. -- Zero.

TABLE 25
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF ZINC (MINE OUTPUT)

(Zn content in metric tons)

Region and country	1990	1995	2000	2003	2005 ^c	2007 ^c	2009 ^c
Europe:							
Western Europe:							
Finland	51,700	16,385	30,493	38,900	40,000	42,000	44,000
France	23,921	--	--	--	--	--	--
Germany	58,100	--	--	--	--	--	--
Greece	26,700	15,083	20,336	30,400	5,000	5,000	5,000
Ireland	166,400	183,500	262,877	419,014	400,000	300,000	300,000
Italy	42,400	23,100	--	--	--	--	--
Norway	17,500	9,877	--	--	--	--	--
Spain	257,500	172,469	200,021	44,660	50,000	50,000	50,000
Sweden	164,000	167,090	176,788	186,900	190,000	190,000	190,000
United Kingdom	6,673	6,673	--	--	--	--	--
Total	814,894	594,177	690,515	719,874	685,000	587,000	589,000
Central Europe:							
Bosnia and Herzegovina	15,200	300	300	--	350	400	400
Bulgaria	35,000	26,000	10,000	31,000	25,000	20,000	20,000
Macedonia	32,000	8,300	25,000	4,000	6,000	10,000	10,000
Poland	153,000	154,500	182,000	152,300	155,000	160,000	160,000
Romania	36,000	34,700	27,452	23,464	30,000	30,000	30,000
Serbia and Montenegro	9,500	3,200	21,000	1,900	6,000	8,000	8,000
Total	280,700	227,000	265,752	212,664	222,000	228,000	228,000
Central Eurasia:							
Armenia	--	700	528	800	800	800	800
Georgia	--	--	200	400	400	400	400
Kazakhstan	315,000	225,000	325,000	395,000	450,000	470,000	480,000
Russia	170,000	131,000	136,000	125,000	150,000	160,000	180,000
Total	485,000	356,700	461,728	521,200	601,000	631,000	661,000
Regional total	1,580,594	1,177,877	1,417,995	1,453,738	1,510,000	1,450,000	1,480,000

^cEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. -- Zero.

TABLE 26
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF REFINED ZINC (PRIMARY AND SECONDARY)

(Metric tons)

Region and country	1990	1995	2000	2003	2005 ^e	2007 ^e	2009 ^e
Europe:							
Western Europe:							
Austria	28,313	--	--	--	--	--	--
Belgium	356,533	211,100	252,000	265,000	270,000	270,000	270,000
Finland	175,000	176,600	222,881	265,900	268,000	270,000	272,000
France	264,132	313,900	347,705	268,408	325,000	325,000	325,000
Germany	337,600	322,460	327,500	388,112	390,000	250,000	250,000
Italy	248,100	260,200	170,300	123,100	150,000	150,000	150,000
Netherlands	208,537	208,000	216,800	203,400	200,000	200,000	200,000
Norway	125,000	121,576	125,800	135,500	138,000	140,000	140,000
Portugal	5,500	4,000	3,600	3,000	3,000	3,000	3,000
Spain	252,700	358,200	387,100	479,700	500,000	500,000	500,000
United Kingdom	93,309	105,998	99,600	16,600	--	--	--
Total	2,094,724	2,082,034	2,153,286	2,148,720	2,240,000	2,110,000	2,110,000
Central Europe:							
Bosnia and Herzegovina	15,000	300	--	--	--	--	--
Bulgaria	75,500	79,700	84,200	86,800	90,000	90,000	90,000
Czech Republic	NA	1,000	150	250	250	250	250
Macedonia	34,100	21,300	62,800	15,100	10,000	10,000	10,000
Poland	132,000	166,400	173,000	150,000	155,000	160,000	160,000
Romania	11,500	28,300	51,900	52,000	50,000	50,000	50,000
Serbia and Montenegro	61,300	6,000	8,300	62	100	100	150
Total	329,400	303,000	380,350	304,212	305,000	310,000	310,000
Central Eurasia:							
Kazakhstan	314,900	238,500	262,200	294,965	410,000	420,000	430,000
Russia	250,000	166,000	230,000	258,000	300,000	330,000	350,000
Uzbekistan	70,000	70,000	18,000	30,000	40,000	50,000	60,000
Total	634,900	474,500	510,200	582,965	750,000	800,000	840,000
Regional total	3,059,024	2,859,534	3,043,836	3,035,897	3,300,000	3,220,000	3,260,000

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. NA Not available. -- Zero.

TABLE 27
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF NATURAL DIAMOND¹

(Thousand carats)

Region and country	1990	1995	2000	2003	2005 ^e	2007 ^e	2009 ^e
Central Eurasia, Russia:							
Gem grade	12,000	10,500	11,600	16,500	20,000	22,000	24,000
Industrial grade	12,000	10,500	11,600	16,500	20,000	22,000	24,000
Regional total	24,000	21,000	23,200	33,000	40,000	44,000	48,000

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown.

¹The large increase in projected Russian diamond production reflects mainly newly released Russian diamond production data. Future volumes will reflect revised historic Russian diamond production data.

TABLE 28
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF PHOSPHATE ROCK (MINE OUTPUT)

(P₂O₅ content in metric tons)

Region and country	1990	1995	2000	2003	2005 ^e	2007 ^e	2009 ^e
Europe:							
Western Europe:							
Denmark	195	440	480	500	520	540	540
Finland	201,000	243,000	277,000	282,000	285,000	290,000	292,000
Total	201,195	243,440	277,480	282,500	286,000	291,000	293,000
Central Eurasia:							
Kazakhstan	2,900,000	1,700	9,570	35,000	40,000	40,000	40,000
Russia	12,000,000	3,400,000	4,450,000	4,420,000	4,400,000	4,400,000	4,400,000
Uzbekistan	--	--	25,000	102,000	100,000	100,000	100,000
Total	14,900,000	3,401,700	4,484,570	4,557,000	4,540,000	4,540,000	4,540,000
Regional total	15,101,195	3,645,140	4,762,050	4,839,500	4,830,000	4,830,000	4,830,000

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. -- Zero.

TABLE 29
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF MARKETABLE COAL¹

(Thousand metric tons)

Region and country	1990	1995	2000	2003	2005 ^c	2007 ^c	2009 ^c
Europe:							
Western Europe:							
Austria	2,448	1,249	1,255	1,152	1,000	1,000	1,000
France	12,744	7,014	4,102	1,739	1,000	500	--
Germany	426,758	259,504	201,641	204,958	200,000	200,000	200,000
Greece	49,909	56,553	64,026	72,000	70,000	70,000	60,000
Italy	15,493	352	14	10	10	10	10
Norway	358	343	330	300	300	300	280
Spain	35,888	23,323	22,977	17,375	16,000	15,000	10,000
Sweden	11	--	--	--	--	--	--
United Kingdom	94,397	53,037	31,972	28,200	26,000	22,000	20,000
Total	638,006	401,375	326,317	325,734	314,000	309,000	291,000
Central Europe:							
Albania	2,071	81	21	18,000	25	25	25
Bosnia and Herzegovina	18,157	1,808	1,900	9,006	9,000	9,000	10,000
Bulgaria	31,675	30,830	27,094	27,694	25,000	25,000	25,000
Croatia	155	75	--	--	--	--	--
Czech Republic	123,881	80,082	68,091	63,772	65,000	65,000	65,000
Hungary	17,578	14,453	14,276	13,169	14,000	14,000	14,000
Macedonia	6,635	7,991	7,100	8,360	8,000	9,000	10,000
Poland	205,208	200,713	162,815	163,792	165,000	165,000	165,000
Romania	38,184	41,128	29,294	33,051	35,000	35,000	35,000
Serbia and Montenegro	44,678	40,556	32,275	35,028	40,000	40,000	40,000
Slovakia	4,766	4,140	3,589	3,077	3,500	3,500	3,500
Slovenia	5,582	4,884	4,480	4,830	4,500	4,500	4,500
Total	498,570	426,741	350,935	379,779	369,000	370,000	372,000
Central Eurasia:							
Georgia	800	40	20	8	10	10	10
Kazakhstan	131,000	113,000	74,872	85,717	90,000	95,000	100,000
Kyrgyzstan	3,400	500	425	411	500	500	500
Russia	395,000	263,000	271,118	274,700	280,000	280,000	300,000
Tajikistan	300	100	21	36	40	40	40
Ukraine	136,000	83,800	81,907	79,255	80,000	78,000	75,000
Uzbekistan	3,200	3,200	2,556	1,909	3,000	3,500	4,000
Total	669,700	463,640	430,919	442,036	454,000	457,000	480,000
Regional total	1,806,276	1,291,756	1,108,171	1,147,549	1,140,000	1,140,000	1,140,000

^cEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. -- Zero.

¹Includes anthracite, bituminous, and run-of-mine lignite.

TABLE 30
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF NATURAL GAS (DRY)

(Million cubic meters)

Region and country	1990	1995	2000	2003	2005 ^e	2007 ^e	2009 ^e
Europe:							
Western Europe:							
Austria	1,290	1,450	1,805	1,200	2,000	2,000	2,000
Denmark	--	6,320	7,100	7,300	8,000	8,000	8,000
France	3,031	2,830	1,873	1,520	1,800	1,800	1,800
Germany	23,720	19,000	21,720	22,091	20,000	20,000	20,000
Greece				36			
Ireland	57	2,826	2,500	2,500	2,500	2,500	2,000
Italy	17,296	20,383	18,500	18,000	15,000	15,000	15,000
Netherlands	74,100	78,350	68,157	74,000	70,000	68,000	65,000
Norway	27,900	27,800	42,000	40,000	38,000	36,000	34,000
Spain	1,553	422	179	550	550	550	550
United Kingdom	50,600	75,461	95,854	70,000	110,000	100,000	100,000
Total	199,547	234,842	259,688	237,197	268,000	254,000	248,000
Central Europe:							
Albania	243	28	11	11	10	10	10
Bulgaria	14	60	15	11	15	20	25
Croatia	1,989	1,966	1,659	2,190	2,200	2,500	2,500
Czech Republic	125	165	118	131	100	100	100
Hungary	4,932	5,451	3,350	3,010	2,900	2,800	2,800
Poland	3,866	4,803	4,956	5,315	5,300	5,300	5,300
Romania	28,336	19,016	14,607	13,205	13,500	13,500	13,500
Serbia and Montenegro	646	906	160	115	110	110	110
Slovakia	981	345	202	210	220	220	220
Slovenia	24	18	7	5	5	5	5
Total	41,156	32,758	25,085	24,203	24,400	24,600	24,600
Central Eurasia:							
Azerbaijan	9,900	6,600	5,600	5,128	5,000	7,000	8,000
Belarus	300	300	257	254	200	200	200
Georgia	40	3	80	18	16	16	16
Kazakhstan	7,100	5,900	11,542	14,700	34,000	40,000	47,000
Kyrgyzstan	100	40	32	27	30	30	30
Russia	641,000	595,000	584,000	616,450	620,000	625,000	630,000
Tajikistan	100	40	40	33	300	500	600
Turkmenistan	84,000	32,300	47,000	50,090	75,000	85,000	85,000
Ukraine	24,000	18,200	17,847	19,460	18,500	18,500	18,500
Uzbekistan	42,000	48,600	55,600	57,481	60,000	61,000	62,000
Total	808,540	706,983	721,998	763,641	813,000	837,000	851,000
Regional total	1,049,243	974,583	1,006,771	1,025,041	1,110,000	1,120,000	1,120,000

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. -- Zero.

TABLE 31
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF CRUDE PETROLEUM

(Thousand 42-gallon barrels)

Region and country	1990	1995	2000	2003	2005 ^e	2007 ^e	2009 ^e
Europe:							
Western Europe:							
Austria	8,010	7,213	7,024	6,976	7,000	7,000	7,000
Denmark	45,400	67,858	87,860	95,000	96,000	97,000	98,000
France	22,036	18,284	11,591	9,150	10,000	10,000	10,000
Germany	26,046	21,638	22,658	28,568	22,000	22,000	22,000
Greece	5,900	3,400	2,100	1,400	5,000	5,000	5,000
Italy	31,619	35,466	35,000	30,000	30,000	30,000	30,000
Netherlands	--	24,466	17,633	18,000	18,000	18,000	16,000
Norway	609,000	979,104	1,000,000	1,100,000	1,100,000	1,150,000	1,150,000
Spain	7,593	4,747	1,648	2,404	2,500	2,500	2,500
United Kingdom	687,015	914,250	884,115	815,000	815,000	800,000	750,000
Total	1,442,619	2,076,426	2,069,629	2,106,498	2,110,000	2,140,000	2,090,000
Central Europe:							
Albania	7,049	3,435	2,095	2,202	2,200	2,200	2,200
Bulgaria	440	345	299	198	250	250	250
Croatia	15,422	11,127	8,992	7,722	8,000	8,000	8,000
Czech Republic	319	1,010	1,139	1,984	1,900	1,900	1,900
Hungary	13,206	11,166	8,607	8,640	9,000	9,000	9,000
Poland	1,209	2,166	4,845	5,534	6,000	6,000	6,000
Romania	61,685	52,925	45,300	42,500	45,000	45,000	45,000
Serbia and Montenegro	7,885	7,908	5,963	4,918	5,000	5,000	5,000
Slovakia	495	509	400	350	350	350	350
Slovenia	18,879	13,782	4,444	3,538	2,500	2,500	2,500
Total	126,589	104,373	82,084	77,586	80,200	80,200	80,200
Central Eurasia:							
Azerbaijan	91,875	67,620	103,635	112,897	147,000	220,000	400,000
Belarus	15,435	13,965	13,605	13,359	13,600	13,600	13,600
Georgia	1,470	294	805	1,025	1,500	2,200	2,200
Kazakhstan	189,630	150,675	260,000	333,000	440,000	550,000	700,000
Kyrgyzstan	1,200	650	567	503	500	500	500
Lithuania	--	734	2,337	2,810	2,800	2,800	2,800
Russia	3,793,000	2,256,000	2,390,000	3,000,000	3,100,000	3,200,000	3,300,000
Tajikistan	1,470	220	147	130	3,500	5,000	5,500
Turkmenistan	41,895	33,075	54,023	73,429	80,000	90,000	95,000
Ukraine	39,690	30,135	27,200	29,200	29,000	29,000	29,000
Uzbekistan	19,845	55,860	34,178	52,364	55,000	60,000	60,000
Total	4,195,510	2,609,228	2,886,497	3,618,717	3,870,000	4,170,000	4,610,000
Regional total	5,764,718	4,790,027	5,038,210	5,802,801	6,060,000	6,390,000	6,780,000

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. -- Zero.

TABLE 32
EUROPE AND CENTRAL EURASIA: HISTORIC AND PROJECTED PRODUCTION OF URANIUM

(U content in metric tons)

Region and country	1990	1995	2000	2003	2005 ^c	2007 ^c	2009 ^c
Europe:							
Western Europe:							
France	3,276	840	318	--	--	--	--
Germany	2,981	35	28	114	220	220	220
Portugal	130	17	16	--	--	--	--
Spain	369	425	623	170	200	200	200
Total	6,756	1,317	985	284	420	420	420
Central Europe:							
Bulgaria	700	600	600	600	600	600	600
Czech Republic	2,540	611	498	458	450	450	450
Hungary	--	277	--	--	--	--	--
Slovakia	34	--	--	--	--	--	--
Total	3,274	1,488	1,098	1,058	1,050	1,050	1,050
Central Eurasia:							
Kazakhstan	3,000	1,630	1,740	3,300	3,400	5,000	7,000
Russia	4,000	2,250	2,500	2,000	2,000	2,000	2,000
Ukraine	1,000	500	600	900	600	400	200
Uzbekistan	3,000	1,800	2,350	1,600	2,100	2,300	2,500
Total	11,000	6,180	7,190	7,800	8,100	9,700	11,700
Regional total	21,030	8,985	9,273	9,142	9,570	11,170	13,170

^cEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. -- Zero.